CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

ORDER NO. R2-2005-0058
NPDES PERMIT NO. CA0037810

WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF PETALUMA
WATER POLLUTION CONTROL PLANT
SONOMA COUNTY

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REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

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SONOMA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Regional Water Board, finds that:

1. The City of Petaluma, hereinafter referred to as the Discharger or the City, applied to the Regional Water Board, for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).

Facility Description

2. The Discharger owns the municipal wastewater treatment plant (WWTP or plant) located at 950 Hopper Street in Petaluma and the oxidation pond system located at 4400 Lakeville Highway, Sonoma County, and presently contracts with Veolia Water Operation Services, Inc. to operate the WWTP. The plant provides secondary level treatment for combined domestic, commercial and industrial wastewater collected in the City, the nearby community of Penngrove, and unincorporated areas in the vicinity of Petaluma. The Discharger's service area currently has a population of approximately 56,632 for the City (Year 2005 data) and 1510 for Penngrove for a total of approximately 58,142 residents.

3. The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Water Board have classified this Discharger as a major discharger.

Purpose of Order

4. This NPDES permit regulates the Discharger's sanitary sewer collection system, the WWTP and the discharge of effluent from the WWTP. Waste discharge requirements specified in Order No. 98-076 (the previous permit or previous Order), adopted by the Regional Water Board on July 15, 1998, used to govern this discharge.

Discharge Description

5. The WWTP has an average dry weather flow (ADWF) design capacity of 5.2 million gallons per day (mgd). The plant presently treats an average dry weather flow of 4.8 mgd (2000-2003) and an annual average flow of about 5.7 mgd (during January 2000 through March 2004). During the wet seasons of 2000 to 2004, the plant discharged an average effluent flow of 7.2 mgd to the Petaluma River; during the dry seasons of the same period, the plant recycled an average flow of 4.2 mgd. A map showing the location of the facility is included as **Attachment A**.

6. During the period from October 21 through April 30, treated wastewater is discharged into the Petaluma River through two submerged pipes located near the shore to prevent interference with barge traffic. The outfall is 8.6 feet below Mean Lower Low Water (MLLW)[1] level. The location of the outfall is approximately at Latitude 38° 12' 33" and Longitude 122° 34' 22".

7. From May 1 through October 20, treated wastewater is reused for agricultural irrigation. In addition to agricultural irrigation, treated wastewater is applied to a golf course located at Frates Road and Ely Road on a year-round basis. Discharge to the river does not occur during this period except as authorized by this permit, and only after a request, which may be submitted over the telephone, is made to the Executive Officer and the Executive Officer approves it. This report must fully explain the need for discharges during this period (e.g., high flows related to late spring or early fall storm events, when reuse is not feasible). Discharges of treated wastewater to land are regulated by Water Reuse Requirements in Order No. 88-036, adopted by the Regional Water Board on March 16, 1988. The City submitted the Notice of Intent (NOI) to be covered under the General Water Reuse Permit, Order No. 96-011, to the Regional Water Board and the California Department of Health Services on August 10, 2005. Upon the effective date of coverage under Order No. 96-011, Order No. 88-036 will be no longer effective.

Treatment Process Description

8. The treatment facility is divided between the main plant located at 950 Hopper Street and the oxidation ponds located approximately 2.5 miles southeast of the plant, at 4400 Lakeville Highway. The treatment process consists of rag and grit removal, pre-aeration, primary sedimentation, biological treatment (either biofiltration or activated sludge), secondary clarification, oxidation lagoon treatment, followed by chlorination/dechlorination. The lagoon/oxidation pond treatment system consists of aeration and oxidation in a 162-acre pond system. Sludge is treated by anaerobic and aerobic digestion, dewatered by either centrifuge or belt filter press, and disposed of in a landfill or land application. A treatment process schematic diagram is included as **Attachment B** of this Order.

9. At the headworks of the treatment plant on Hopper Street, wastewater is screened prior to being pumped to the aerated grit removal chamber. Grit is augered to a dumpster for disposal at a landfill. Following grit removal, wastewater flows to a primary clarifier.

10. *Split Flow Scheme.* Flows greater than 4.0 mgd are sent directly from the primary clarifiers to the pond system. Flows less than 4.0 mgd are split between two secondary treatment processes. Up to 2.2 mgd is treated in a biofiltration system consisting of three trickling filters in series, and up to 1.8 mgd is treated in an activated sludge process. Flows from the trickling filters and the activated sludge process are directed to secondary clarifiers and then pumped to the oxidation pond system.

11. *Wet Weather Flow Handling.* During wet season, daily flows in excess of approximately 6.0 mgd are directed to the Pond Influent Pump Station and pumped directly, after rag removal in a screening unit, to the oxidation pond system for treatment.

12. *Oxidation ponds*. The oxidation pond system consists of an aerated lagoon followed by an aerated pond and nine oxidation ponds. In order to optimize the pond system to achieve the highest quality of

[1] A tidal datum. The average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, simultaneous observational comparisons are made with a control tide station in order to derive the equivalent datum of the National Tidal Datum Epoch.

effluent, the number of ponds used for treatment at any given time may vary, depending on the time of year, flows, and weather conditions. The aerated lagoon has 3 aerators and pond No. 1 is equipped with 7 aerators. Effluent from these ponds is disinfected by chlorination. The Discharger has added additional aerators to the oxidation ponds as well as finer screening at the headworks and bar screens at the Pond Influent Pump Station, in order to enhance the reliability of the existing plant.

13. *Sludge Handling and Disposal.* Wastewater solids removed during the treatment process are directed to either anaerobic or aerobic reactors for digestion. Waste activated sludge from the activated sludge process goes to the aerobic digester, while sludge from the biofiltration system and primary clarifier go to the anaerobic digester. The sludge is then dewatered by either a belt filter press or centrifuge. Stabilized, dewatered biosolids are hauled away for off-site disposal in a landfill or land application.

14. *Effluent Flow and Monitoring.* From October 21 to April 30, effluent from the oxidation ponds is dechlorinated prior to discharge to the Petaluma River. From May 1 through October 20, treated wastewater is reclaimed for irrigation. Flows directed to the recycling project are chlorinated, but generally not dechlorinated. Plant effluent flow is diverted either directly to the recycling distribution system or to the outfall pipeline. Effluent is monitored just after entering the pipelines. Total plant effluent flow and flow to recycling are measured separately.

Collection System Description

15. *Collection system and pump stations.* The Discharger's existing sanitary sewer collection system comprises approximately 224 miles of public sewer pipelines ranging in diameter from 6 to 48 inches. The collection system also includes four primary wastewater pump stations: C Street, Wilmington, Payran, and Copeland Street. These pump stations have alarms for notification in the event of system failure, and provision for emergency power.

16. *Pond Influent Pump Station (PIPS).* In a Sewer System Infiltration/Inflow Study, dated May 1996, overflow problems in the collection system were determined to be primarily a result of limitations in the pumping capacity at PIPS, which conveys treated effluent from the WWTP to the oxidation ponds, and an undersized sewer main in Lindberg Lane. To meet current and future peak wet weather flows and avoid overflows in the sewer collection system, the Discharger completed a $5 million upgrade to the PIPS in 2001 by expanding its pumping capacity and replacing all the mechanical and electric equipment, and completed a $1.5 million replacement of the Lindberg Lane sewer main in 2002.

Sanitary Sewer Management Plan

17. On October 15, 2003, the Regional Water Board adopted Order No. R2-2003-0095 establishing a collaborative effort with the Bay Area Clean Water Agencies (BACWA) to develop guidance for sanitary sewer management plans (SSMPs) aimed at reducing or eliminating sanitary sewer overflows, and for uniform, electronic reporting of sanitary sewer overflows to the Regional Water Board to facilitate the Regional Water Board's assessment of the problem regionally. This Order requires the Discharger to fully participate in this effort, to develop and implement an SSMP, and to report sanitary sewer overflows electronically. The requirements are specified in the Executive Officer's letters (*Requirement for Electronic Reporting of Sanitary Sewer Overflows*) dated November 15, 2004 and (*New Requirements for Preparing Sewer System Management Plans)* dated July 7, 2005. In response to the Executive Officer's letter of July 7, 2005, the Discharger submitted SSMP Form A to the Regional Water Board on August 9, 2005.

New Wastewater Treatment Plant Status

18. *History of Existing WWTP.* The current wastewater treatment facilities consist of a combination of facilities that were constructed at various stages of community development over the past 67 years. The trickling filter plant was constructed in 1938, and the activated sludge plant was built in 1966. The oxidation ponds were added in 1972. Many treatment units, along with other equipment at the site, have exceeded their design life. These units and other mechanical, electrical and structural components of the plant may be subject to future break down and may need costly upgrade and repairs. Also, flows at the plant are reaching the permitted capacity of the facility.

19. In order to address the above described concerns, in 1991, the Discharger initiated a planning process for evaluation of the existing facilities, and development of a new plant, which would be privately owned, operated, financed and constructed. An Environmental Impact Report (EIR) for the City of Petaluma's Wastewater Facilities Project and Long-Range Management Program was approved by the Petaluma City Council in June of 1996. In 1999, the Discharger terminated the privatization process and began development of a publicly owned wastewater treatment facility. An antidegradation analysis was performed and included in the Report of Waste Discharge submitted in March 2002. In August 2002, the Discharger certified the Final EIR, and certified addenda to the Final EIR on June 7, 2004, and August 1, 2005, respectively.

20. The new WWTP (Ellis Creek Water Recycling Facility) will be located adjacent to the existing oxidation pond site, and will consist of bar screens, grit removal, oxidation ditches, oxidation ponds, secondary clarifiers, gravity belt thickening, solids digestion, solids dewatering, treatment wetlands, polishing treatment wetlands, chlorination and dechlorination facilities, with an average dry weather flow design capacity of 6.7 mgd. The secondary effluent will be filtered, and disinfected by ultra violet to provide for unrestricted reuse of the effluent. The new WWTP will utilize recycled water year-round. During the dry season, tertiary recycled water will also be utilized within the urban setting on parks and play fields. The Discharger anticipates continued use of secondary recycled water for agricultural use. The Discharger completed design of the facility in April 2005. It is expected that the new WWTP will be operational by 2008. The new facility will replace the existing facility at 950 Hopper Street. Once the new facility begins operating, the existing treatment structures at 950 Hopper Street will be demolished with the exception of the PIPS. The location map of the new WWTP is included as **Attachment C**. The treatment process schematic diagram for the new WWTP is included as **Attachment D**.

21. This Order allows, during Phase 1 of the plant improvements, an increase in the permitted dry weather flow capacity from the current capacity of 5.2 mgd to 5.7 mgd by written approval from the Executive Officer upon the submittal of an acceptable engineering report regarding the installation of additional aeration capacity, and the Executive Officer's review and acceptance of the antidegradation analysis referenced in Finding 19 above.

22. *NPDES Permit Requirements during Construction*. During the 36-month construction of the new WWTP, storage capacity in the ponds may be reduced due to, for example, wetland planting, biosolids removal, pump station development, flow split structure modifications, tie-in of pumps and pipes, and effluent discharge flow control structure modifications. From May 1 through October 20, treated wastewater is reused for agricultural irrigation. California Water Code, Section 13385(j) provides protection to new treatment facilities by allowing a time period for the treatment facilities to become stabilized, during which violations of effluent limitations are exempt from enforcement actions. The Discharger, however, shall comply with conditions specified in the section before the protection can be applied. If construction constraints require some discharge in the summer months during the 36-month construction schedule, and the Executive Officer approves of such discharge,

this discharge will be considered part of the time period for the treatment facilities to become stabilized.

23. This Order allows, during Phase 2 of the plant improvements, an increase in the permitted dry weather flow capacity from the Phase 1 capacity of 5.7 mgd to 6.7 mgd by written approval from the Executive Officer. This approval for a new permitted treatment plant capacity is conditioned upon completion of the proposed new treatment plant facilities in accordance with proposed designs, and documentation of treatment plant hydraulic and organic loading capacities in an engineering analysis performed by a professional engineer registered in the State of California. Tasks to be completed in order for the new permitted treatment plant capacity to become effective are identified in a provision of this Order.

24. *NPDES Permit Requirements for New WWTP*. After the new WWTP becomes operational, if that occurs before this Order expires, the effluent limitations contained in this Order will apply to the discharge from the new WWTP, except for total suspended solids (TSS) effluent limitations, which are specified in the Effluent Limitation Section. The Discharger may also seek protection under the California Water Code, Section 13385(j). The permit may be reopened, to include new or revised effluent limitations, after effluent water quality data from the new WWTP are available. In addition, the point of compliance with effluent limitations for the new facility will be determined after completion of construction and start-up.

Regional Monitoring Program

25. On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement a Regional Monitoring Program for the San Francisco Bay. Subsequent to a public hearing and various meetings, the Regional Water Board requested major permit holders in this region, under authority of Section 13267 of the California Water Code, to report on the water quality of the San Francisco Bay Estuary. These permit holders responded to that request by participating in a collaborative effort, through the San Francisco Estuary Institute (formerly the Aquatic Habitat Institute). This effort is known as the San Francisco Bay Regional Monitoring Program for Trace Substances (the RMP), which includes collection of data on pollutants and toxicity in water, sediment, and biota of the estuary. This Order requires the Discharger to continue to participate/contribute to the RMP.

Applicable Plans, Policies, and Regulations

26. Water quality objectives (WQOs), water quality criteria (WQC), effluent limitations, and calculations contained in this Order are based on the statutes, documents, and guidance detailed in Section III of the attached Fact Sheet, which is incorporated here by reference.

    a. On March 30, 2000, U.S. EPA revised its regulation that specifies when new and revised State and Tribal water quality standards become effective for Clean Water Act (CWA) purposes (40 CFR 131.21, 65 FR 24641, April 27, 2000). Under U.S. EPA's new regulation (also known as the Alaska rule), new and revised standards submitted to U.S. EPA after May 30, 2000, must be approved before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to U.S. EPA by May 30, 2000, may be used for CWA purposes, whether or not approved by U.S. EPA.

    b. This Order contains restrictions on individual pollutants that are no more stringent than required by the federal Clean Water Act. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on biological oxygen demand (BOD), total suspended solids

(TSS), pH, Oil and Grease, and total chlorine residual. Restrictions on these pollutants are specified in federal regulations as discussed in Finding 34, and the permit's technology-based pollutant restrictions are no more stringent than required by the Clean Water Act. Water quality-based effluent limitations (WQBELs) have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule, or CTR), the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP *(Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, the State Implementation Policy, or SIP), which was approved by U.S. EPA on May 1, 2001 or Basin Plan provisions approved by U.S. EPA on May 29, 2000. Most beneficial uses and WQOs contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to May 30, 2000. Any WQOs and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the Clean Water Act" pursuant to 40 C.F.R. 131.21(c)(1). The remaining WQOs and beneficial uses implemented by this Order (specifically arsenic, chromium (VI), copper (freshwater only), lead, nickel, silver, and zinc) were approved by U.S. EPA on January 5, 2005, and are applicable water quality standards pursuant to 40 C.F.R. 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the Clean Water Act and the applicable water quality standards for purposes of the Clean Water Act.

Beneficial Uses

27. The beneficial uses of San Francisco Bay in the vicinity of the outfall, as identified in the Regional Water Board's June 21, 1995 *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan) and based on known uses of the receiving water (Petaluma River) in the vicinity of the discharge, are:
    - Cold Fresh Water habitat
    - Marine Habitat*
    - Fish Migration
    - Navigation
    - Preservation of Rare and Endangered Species
    - Water Contact Recreation
    - Noncontact Water Recreation
    - Fish Spawning
    - Warm Freshwater Habitat
    - Wildlife Habitat

    * The Discharger has stated its intent to petition the Regional Water Board to change the "Marine Habitat" beneficial use to "Estuarine" in the next Basin Plan review process.

Basis for Effluent Limitations

General Basis

Applicable WQOs/WQC

28. The WQOs/WQC applicable to the receiving water of this discharge are from the Basin Plan, CTR, and NTR.

a. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in fresh water, and lead, mercury, nickel, silver, zinc, and total polynuclear aromatic hydrocarbons (PAHs) in salt water. The narrative toxicity objective states in part "[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part "[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.

b. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries such as San Francisco Bay, except where the Basin Plan's Tables 3-3 and 3-4 specify numeric objectives for certain of these priority toxic pollutants, the Basin Plan's numeric objectives apply over the CTR (except in the South Bay south of the Dumbarton Bridge).

c. The NTR established numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34 toxic organic pollutants for waters of San Francisco Bay upstream to, and including, Suisun Bay and the Sacramento-San Joaquin Delta. This includes the receiving water for this Discharger.

29. Where numeric WQOs/WQC have not been established or updated in the Basin Plan, CTR, or NTR, 40 CFR Part 122.44(d) and Chapter 4 of the Basin Plan specify that WQBELs may be set based on U.S. EPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQC to fully protect designated beneficial uses. The Fact Sheet for this permit discusses the specific bases and rationales for effluent limitations, and is incorporated as part of this Order.

Basin Plan Amendment

30. On January 21, 2004, the Regional Water Board adopted Resolution No. R2-2004-0003 amending the Basin Plan to (1) update the dissolved WQOs for metals to be identical to the CTR WQC except for cadmium; (2) to change the Basin Plan definitions of marine, estuarine and freshwater to be consistent with the CTR definitions; (3) to update NPDES implementation provisions to be consistent with the SIP; (4) to remove settleable matter effluent limitations for POTWs, and other editorial changes. Subsequent to approval by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law (OAL) (July 22, 2004, and October 4, 2004, respectively), the U.S. EPA approved the amendment on January 5, 2005.

Basin Plan and CTR Receiving Water Salinity Policy

31. The Basin Plan and CTR state that the salinity characteristics (i.e., freshwater versus saltwater) of the receiving water shall be considered in determining the applicable WQOs/WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than 1 ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities in between these two categories, or tidally influenced fresh waters that support estuarine beneficial uses,

the criteria shall be the lower of the salt- or freshwater criteria (the freshwater criteria for some metals are calculated based on ambient hardness), for each substance.

Receiving Water Salinity

32. The receiving waters for the subject discharge are the waters of the Petaluma River, which is a tributary of San Pablo Bay. The Petaluma River is tidally-influenced and has salinities in between the two categories described above. Therefore, this Order's effluent limitations are based on the lower of the marine and fresh water WQOs/WQC. This is also consistent with the previous permit.

Receiving Water Hardness

33. Ambient hardness values are used to calculate freshwater WQOs/WQC that are hardness dependent. In determining the WQOs/WQC for this Order, Regional Water Board staff used a hardness value of 190 mg/L as $CaCO_3$, which is the adjusted geometric mean (AGM) of 84 hardness values obtained from the Discharger's monitoring of the Petaluma River, during the period of January 1994 through December 2003, while there were discharges to the Petaluma River. The AGM represents the value that 30% of the data points fall below. The hardness data set was reduced (from 240 data points to 84 data points) to eliminate hardness values above 400 mg/L and to eliminate hardness values obtained when the receiving water salinity was above 1.0 ppt. Since salinity was not monitored for all sampling events, a linear regression analysis was performed on the available salinity and total dissolved solids (TDS) data. The equation was used to project the missing salinity values associated with hardness monitoring data collected on specific dates. (See the Fact Sheet for more details on the AGM calculation).

Technology-Based Effluent Limitations

34. Permit effluent limitations for conventional pollutants are technology based. Technology-based effluent limitations are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility, as required under 40 CFR Part 133.102. TSS effluent limitations are retained from the previous Order and are based on best professional judgment (BPJ). Additional effluent limitations for total coliform, total chlorine residual, and oil and grease are defined by the Basin Plan. Further, these conventional effluent limits are the same as those from the previous permit for the following constituents:

    - Biochemical oxygen demand (BOD)
    - BOD percent removal
    - Total suspended solids (TSS)
    - TSS percent removal
    - pH
    - Oil and grease
    - Total coliform, and
    - Total chlorine residual

    The settleable solids effluent limitations are no longer required per the 2004 Basin Plan amendment.

35. Total Suspended Solids (TSS) Effluent Limitations
    a. The physical and operational characteristics of the oxidation ponds may contribute to suspended solids in the final effluent, as clay particles from the pond base are suspended by wave action. Algae growth and daphnia also contribute to suspended solids. The Federal Secondary Treatment

[40 CFR 133.103] regulations recognize the inability of waste stabilization ponds to generate effluent that consistently meets standard secondary treatment requirements, and therefore allow alternative limitations when they are consistent with proper operation and maintenance of such facilities. According to the Federal Secondary Treatment regulations, these alternative limits may only be applied if (1) the BOD and TSS effluent concentrations, consistently achievable through proper operation and maintenance of the treatment works, exceed the minimum level of the effluent quality set forth in 133.102(a) and 133.102(b); and, (2) waste stabilization ponds or trickling filters are the principal process used for secondary treatment.

b. The Discharger's secondary treatment processes include the trickling filters, activated sludge unit, and oxidation ponds. The trickling filters and oxidation ponds combined treat over 50% of the wastewater. The previous permit includes 5-day BOD (BOD_5) effluent quality consistent with the Federal Secondary Treatment regulation and from 2000 to March 2004, there have only been two exceedances of the BOD_5 effluent limitations.

c. This Order retains the TSS effluent limits from the previous permit. The effluent limits for TSS are higher than those typically applied to discharge of secondary treated wastewater (Basin Plan TSS limits shall be applied after the new WWTP becomes operational). These limits were established by the Regional Water Board upon issuance of the Discharger's permit in 1985, based on changes in pond operation that resulted from initiation of the reuse program. Altering pond levels to accommodate reuse needs reduced particulate settling, and thus increased suspended solids levels.

d. After the new WWTP, with treatment wetlands and polishing treatment wetlands aiming at resolving the TSS issue, is operational, the TSS effluent limits specified in 40 CFR 133.102 shall apply.

Water Quality-Based Effluent Limitations (WQBELs)

36. Toxic substances are regulated by WQBELs derived from the Basin Plan, Tables 3-3 and 3-4, the CTR, the NTR, and/or best professional judgment (BPJ) as defined in Section III of the attached Fact Sheet. WQBELs in this Order are revised and updated from the limits in the previous permit, and their presence in this Order is based on an evaluation of the Discharger's data as described below under the Reasonable Potential Analysis. Numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality standard. Reasonable potential is determined and final WQBELs are developed using the methodology outlined in the SIP. If the Discharger demonstrates that the final limits will be infeasible to meet and provides justification for a compliance schedule, then interim limits are established, with a compliance schedule to achieve the final limits. Further details about the effluent limitations are given below and in the associated Fact Sheet.

    a. Maximum Daily Effluent Limitations (MDELs) are used in this permit to protect against acute water quality effects. It is impracticable to use weekly average limitations to guard against acute effects. Although weekly averages are effective for monitoring the performance of biological wastewater treatment plants, the MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

    b. NPDES regulations, the SIP, and U.S. EPA's Technical Support Document (TSD) provide the basis to establish MDELs. NPDES regulations at 40 CFR 122.45(d) state:
    "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as:

(1) Maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works; and

(2) Average weekly and average monthly discharge limitations for POTWs." (Emphasis added.)

c. The amended SIP (p. 8, Section 1.4) requires that WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs). For aquatic life-based calculations (only), the amended SIP indicates MDELs are to be used in place of average weekly limitations for POTWs.

d. The TSD (p. 96) states a maximum daily limitation is appropriate for two reasons:

(1) The basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards.

(2) The 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed. A maximum daily limitation would be toxicologically protective of potential acute toxicity impacts.

Receiving Water Ambient Background Data Used in Calculating WQBELs

37. Ambient background values are used in the reasonable potential analysis (RPA) and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. The Discharger has collected three sets of receiving water monitoring data in 2002 and 2003 at two stations, located upstream and downstream of its discharge outfall, respectively, on the Petaluma river, for all the 126 priority pollutants. In addition, the Discharger collected copper, nickel, and mercury receiving water data during a metal translator study in 2000 and 2001. These data are used in the RPA.

Constituents Identified in the 303(d) List

38. On June 6, 2003, U.S. EPA approved a revised list of impaired waterbodies prepared by the State. The list (hereinafter referred to as the 2002 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific waterbodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. San Pablo Bay is listed as an impaired waterbody. The pollutants impairing San Pablo Bay include diazinon, dieldrin, dioxin compounds, furan compounds, mercury, nickel, PCBs, dioxin-like PCBs, and selenium. San Pablo Bay is also listed as impaired by exotic species. Copper, which was previously identified as impairing San Pablo Bay, was not included as an impairing pollutant in the 2002 303(d) list and has been placed on the new Monitoring List. The Petaluma River (tidal portion) has been listed as impaired by diazinon, nickel, pathogens, and nutrients.

Total Maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs)

39. The Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for San Pablo Bay and the Petaluma River for the above 303(d)-listed pollutants within the next ten years, with the exception of dioxin and furan compounds. For dioxin and furan the Regional Water Board intends to consider this matter further after U.S. EPA completes its national health reassessment. Future review of the 303(d) list for San Pablo Bay and Petaluma River may result in revision of the schedules and/or provide schedules for other pollutants.

40. The TMDLs will establish waste load allocations (WLAs) and load allocations for point sources and non-point sources, respectively, and will result in achieving the water quality standards for the water body. Depending upon whether the Discharger is found to be impacting water quality in San Pablo Bay and/or the Petaluma River, the TMDLs may include WLAs for the Discharger. If the TMDLs address the Discharger, the final effluent limitations for this discharge would be based on the applicable WLAs.

41. The following summarizes the Regional Water Board's strategy to collect water quality data and to develop TMDLs:

    a. *Data collection* – Dischargers collectively may assist in developing and implementing analytical techniques capable of detecting 303(d)-listed pollutants to at least their respective levels of concern or WQOs/WQC. The Regional Water Board will require dischargers to characterize the pollutant loads from their facilities into the water quality-limited water bodies. The results will be used in the development of TMDLs, but may also be used to update/revise the 303(d) list and/or change the WQOs/WQC for the impaired water bodies including San Pablo Bay and/or Petaluma River.

    b. *Funding mechanism* – The Regional Water Board has received, and anticipates continued receipt of, resources from federal and state agencies for the development of TMDLs. To ensure timely development of TMDLs, the Regional Water Board intends to supplement these resources by allocating development costs among dischargers through appropriate funding mechanisms.

Interim Limitations and Compliance Schedules

42. Section 2.1.1 of the SIP states:

    "the compliance schedule provisions for the development and adoption of a TMDL only apply when: …(b) the Discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the RWQCB should consider the discharge's contribution to current loadings and the Discharger's ability to participate in TMDL development."

    The Discharger has agreed to assist the Regional Water Board in TMDL development through active participation in and contribution to the BACWA. The Regional Water Board adopted Resolution No. 01-103, on September 19, 2001, authorizing the Executive Officer of the Regional Water Board to enter into a Memorandum of Understanding with BACWA and other parties to accelerate the development of Water Quality Attainment Strategies (WQAS), including TMDLs, for the San Francisco Bay-Delta and its tributaries.

43. Compliance schedules are established based on Section 2.2 of the SIP for limits derived from CTR or NTR WQC or based on the Basin Plan for limits derived from the Basin Plan WQOs. In addition, the Regional Water Board has reasonably construed the Basin Plan provision to authorize compliance schedules for new interpretations of existing standards resulting in more stringent effluent limitations. If an existing discharger cannot immediately comply with a new and more stringent effluent

limitation, the SIP and the Basin Plan authorize a compliance schedule in the permit. To qualify for a compliance schedule, both the SIP and the Basin Plan require that the discharger demonstrate that it is infeasible to achieve immediate compliance with the new limit. The SIP and Basin Plan require that the following information be submitted to the Board to support a finding of infeasibility:

- Descriptions of diligent efforts the discharger has made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.

- Descriptions of source control and/or pollution minimization efforts currently under way or completed.

- A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment.

- A demonstration that the proposed schedule is as short as practicable.

44. Until final WQBELs or WLAs are adopted for 303(d)-listed pollutants, State and Federal anti-backsliding and antidegradation policies and the SIP require that the Regional Water Board include interim effluent limitations for them. The interim effluent limitations will be the lower of the current performance or the previous permit's limitations.

    This Order establishes an interim performance-based mass limitation to maintain the Discharger's current loading of mercury, a 303(d)-listed bioaccumulative pollutant that has reasonable potential. This interim performance-based mass limitation is retained from the previous permit.

45. On August 22, 2005, the Discharger submitted a feasibility study (the Feasibility Study, see **Attachment H**), asserting it is infeasible to immediately comply with the WQBELs, calculated according to SIP Section 1.4, for copper and cyanide. In addition, the study asserts that the Discharger cannot comply with the mercury final effluent limit contained in the previous Order. Regional Water Board staff conducted statistical analysis or direct comparison of recent WWTP performance data for these pollutants, as further detailed in later findings under the heading Development of Specific Effluent Limitations and also in Section IV.4.g, Tables D and E of the attached Fact Sheet. Based on these analyses, the Regional Water Board concurs that it is infeasible to achieve immediate compliance for these pollutants.

46. a. The demonstration of infeasibility for copper and cyanide complies with the Basin Plan, Chapter 4. This Order establishes a compliance schedule until May 17, 2010 for copper and April 27, 2010 for cyanide, as allowed by the CTR and Basin Plan, respectively. Since the compliance schedule extends beyond 1 year, pursuant to the SIP, and 40 CFR 122.47, the Regional Water Board shall establish interim numeric limitations and interim requirements to control the pollutants. This Order establishes interim limits for copper and cyanide based on the previous permit limits or existing plant performance, whichever is more stringent. Specific basis for these interim limits are described in the following findings for copper and cyanide.

    b. The previous permit established a compliance schedule for copper until July 15, 2005 and for cyanide until July 15, 2003, or until site-specific objectives (SSOs) are adopted. The SSOs for copper and cyanide are still in development; therefore extension of the compliance schedules is appropriate. Though this Order requires final WQBELs for copper and cyanide to be met starting on May 18, 2010 and April 27, 2010, respectively, these WQBELs based on existing WQC appear to be over-protective in consideration of the site-specific objectives (SSOs) being

developed for copper and cyanide. It is the Regional Water Board's intent to revisit these WQBELs once the SSOs are established.

47. This Order establishes an interim performance-based mass limitation to maintain the Discharger's current mass loadings of mercury into the Petaluma River and San Pablo Bay. Mercury is 303(d)-listed bioaccumulative pollutant. The interim performance-based mass limitation is retained from the previous permit.

    This Order also establishes interim requirements in a provision for development and/or improvement of a Pollution Prevention and Minimization Program to reduce pollutant loadings to the WWTP, and for submittal of annual reports on this Program.

Antidegradation and Anti-backsliding

48. The limitations in this Order are in compliance with the Clean Water Act Section 402(o) prohibition against establishment of less stringent WQBELs for the following reasons:

    a. Under 402(o)(2)(c), a less stringent effluent limitation is allowed due to events over which the Discharger has no control and for which there is no reasonable available remedy.

    b. Antibacksliding does not apply to the interim limitations established under previous Orders, so long as there is compliance with antidegradation requirements. The interim limitations in this Order are in compliance with antidegradation requirements and meet the requirements of the SIP because the interim limitations hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further water quality degradation.

Specific Basis

Reasonable Potential Analysis

49. As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." Using the method prescribed in Section 1.3 of the SIP, the Regional Water Board has analyzed the effluent data to determine whether the discharge, which is the subject of this Order, has a reasonable potential to cause or contribute to an excursion above an applicable water quality standard (reasonable potential analysis or RPA). For all parameters that have reasonable potential, numeric WQBELs are required. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the NTR, and the CTR.

RPA Methodology

50. The method for determining reasonable potential involves identifying the observed maximum pollutant concentration in the effluent (MEC) for each constituent, based on effluent concentration data. There are three triggers in determining reasonable potential.

    (1) The first trigger (Trigger 1) is activated when the MEC is greater than the lowest applicable WQO/WQC, which has been adjusted for pH, hardness (for freshwater WQO/WQC only), and translator data, if appropriate. If the MEC is greater than the adjusted WQO/WQC, then that pollutant has reasonable potential and a WQBEL is required.

    (2) The second trigger (Trigger 2) is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO/WQC (B>WQO/WQC), and the pollutant was detected in the effluent samples.

    (3) The third trigger (Trigger 3) is activated if a review of other information determines that a WQBEL is required even though both MEC and B are less than the WQO/WQC, or effluent and background data are unavailable or insufficient (e.g., all nondetects). A limit is required only under certain circumstances to protect beneficial uses.

RPA Determinations

51. Regional Water Board staff conducted a RPA based on effluent data collected from January 2000 through March 2004, and receiving water ambient background data collected from 2002 through 2004, for priority pollutants, and additional receiving water copper, nickel, and mercury data collected in 2000 and 2001, using the method prescribed in Section 1.3 of the SIP.

52. The MECs, WQOs/WQC, basis for the WQOs/WQC, background concentrations and reasonable potential conclusions are listed in Table 2 for all constituents analyzed. The RPA results for some of the constituents in the CTR were not determined because of lack of an objective/criteria. (Further details about the RPA can be found in the Fact Sheet.) Based on the RPA methodology in the SIP, the following constituents have been found to have reasonable potential to cause or contribute to an excursion above WQOs/WQC: copper, mercury, nickel, selenium, cyanide, bis(2-ethylhexyl)phthalate, and TCDD TEQ (dioxins and furans).

Table 2. Summary of RPA Results

CTR No.	Constituents	WQO/WQC (µg/L)	Basis[1]	MEC (µg/L)	Maximum Ambient Background Conc. (µg/L)	Reasonable Potential (Trigger Type)[2]
1	Antimony	4,300	CTR, hh	0.5	1.1	No
2	Arsenic	36	BP, sw	3.6	29	No
4	Cadmium	1.9	BP, fw H=190	0.2	0.06	No
5b	Chromium (VI)	11	BP, fw	3	8.3	No
6	Copper	3.7	CTR,sw T=0.83	6	14.7	**Yes (#1)**
7	Lead	7.2	BP, fw, H=190	0.6	1.8	No
8	Mercury*	0.025	BP, sw	0.021	0.018	**Yes (#3)**
9	Nickel*	8.3	BP, sw	6.8	24.5	**Yes (#2)**
10	Selenium*	5.0	NTR, fw/sw	2	12	**Yes (#2)**
11	Silver	2.2	BP, sw	0.5	<0.01	No
12	Thallium	6.3	CTR, hh	0.2	0.2	No
13	Zinc	86	BP, sw	40	20	No
14	Cyanide	1.0	NTR, sw	10	3	**Yes (#1)**
68	Bis(2-Ethylhexyl)Phthalate	5.9	CTR, hh	12	<0.8	**Yes (#1)**
	TCDD TEQ*	$1.4x10^{-8}$	CTR, hh	8.73×10^{-6}	5.27×10^{-8}	**Yes (#1)**
	CTR#s 17-126	Various or NA	CTR, hh	Non-detect, less than WQO, or no WQO	Less than WQO or Not Available	No or Undetermined[3]

* = Constituents on 303(d) list
[1] RPA based on the following: BP = Basin Plan; CTR = California Toxics Rule; NTR=National Toxics Rule; fw = freshwater; sw = saltwater; hh= human health; H= ambient hardness value; T = translator to convert dissolved to total copper.
[2] Trigger type is as defined in Finding 50 above.
[3] Undermined due to lack of WQOs/WQC of effluent data.

53. *RPA Results for Impairing Pollutants.* While TMDLs and WLAs are being developed, interim concentration limitations are established in this permit for 303(d)-listed pollutants that have a reasonable potential to cause or contribute to an excursion above the water quality standard. In addition, mass limitations are required for bioaccumulative 303(d)-listed pollutants that can be reliably detected. Constituents on the 303(d) list for which the RPA determined a need for effluent limitations are mercury, nickel, selenium, and dioxins. Final determination of reasonable potential for some other constituents identified on the 303(d) list could not be performed owing to the lack of an established WQO/WQC.

54. *Polynuclear Aromatic Hydrocarbons (PAHs)*. This Order implements the policy and regulations of the CTR and SIP in regard to PAHs, i.e., reasonable potential is determined for individual PAHs. The

Basin Plan contains a WQO for total PAHs for the protection of saltwater aquatic life of 15 µg/L, as a 24-hour average; therefore, RPA is also performed on total PAHs. The previous permit included a WQBEL for total PAHs of 0.049 µg/L as a daily average for protection of the Basin Plan's narrative toxicity objective. The Discharger's monthly monitoring data for total PAHs from 2001 through 2003 contain all non-detected values, with a reporting limit of 0.3 µg/L. This is lower than the required reporting limit of 4 µg/L in the previous permit. Therefore, there is no reasonable potential for total PAHs and no effluent limitation is included in this Order. The Discharger also analyzed individual PAH compounds included in the CTR and none were detected and no reasonable potential was shown. Continued monitoring for these pollutants is required by Provision F.2.

55. *Other Organics.* The Discharger has performed sampling and analysis for all but a few organic constituents listed in the CTR. The data were used to perform the RPA. The full RPA is presented as an attachment in the Fact Sheet. The Discharger will continue to monitor for these constituents in the effluent and the receiving water.

56. *Effluent Monitoring.* This Order does not include effluent limitations for constituents that do not show reasonable potential, but continued monitoring for these pollutants is required as described in Provision F.2. If concentrations of these constituents increase significantly, the Discharger will be required to investigate the source of the increases and establish remedial measures, if the increases result in a reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC.

57. *Permit Reopener*. This Order includes a reopener provision to allow numeric effluent limitations to be added or deleted for any constituent that exhibits or does not exhibit, respectively, reasonable potential. The Regional Water Board will make this determination based on monitoring results.

Development of Effluent Limitations

58. Copper

    a. *Copper WQC.* The saltwater criteria for copper in the CTR are 3.1 µg/L for chronic protection and 4.8 µg/L for acute protection. Included in the CTR are default translator values to convert these dissolved criteria to total criteria. Using the CTR default translator of 0.83, translated criteria of 3.7 µg/L for chronic protection and 5.8 µg/L for acute protection were used to determine reasonable potential and calculate effluent limitations.

    b. *RPA Results.* This Order establishes effluent limitations for copper because the 6 µg/L MEC exceeds the governing WQC of 3.7 µg/L, demonstrating reasonable potential by Trigger 1, as defined in a previous finding.

    c. *WQBELs.* The copper WQBELs calculated according to SIP procedures are 5.2 µg/L as the maximum daily effluent limit (MDEL) and 3.3 µg/L as the average monthly effluent limit (AMEL). The previous permit included a WQBEL of 4.9 µg/L as a daily average. This number is lower than the calculated MDEL, above. Although the calculated MDEL is higher than the previous Order's copper daily average limitation, the new WQBELs derived using the SIP

procedures are considered to be more protective of the water quality. The AMEL will limit the discharge to a lower long-term average level than the previous permit limitation, which only limits the daily average concentration of the effluent, and as a result, the Discharger could practically discharge an effluent with long-term average at the previous daily average level. Therefore, the new WQBELs are considered to be more stringent, and are established as the new WQBELs.

d. *Immediate Compliance Infeasible.* The Discharger's Feasibility Study asserts the Discharger cannot immediately comply with these WQBELs for copper. Regional Water Board staff statistically analyzed the Discharger's effluent data from January 2000 through March 2004 (see Section IV.4.g and Table D of the attached Fact Sheet for detailed results of the statistical analysis). Based on the analysis, Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final copper WQBELs.

e. *Interim Effluent Limitation.* Because it is infeasible for the Discharger to immediately comply with the copper WQBELs, an interim limitation is required. Regional Water Board staff considered effluent data from January 2000 to March 2004 to develop an interim limitation. Historically, IPBLs have been referenced to the 99.87th percentile value of recent performance data. Statistical analysis of the copper effluent data indicates a 99.87th percentile value of 7.9 µg/L. The previous permit contains a WQBEL of 4.9 µg/L, which is more stringent. However, the Discharger has asserted that it is infeasible to achieve immediate compliance with the previous permit effluent limit. The Discharger asserts that its oxidation pond system provides metal removal usually equivalent to a tertiary-level treatment plant. The Discharger's copper effluent monitoring concentrations have been consistently low in the past (MEC is 6 µg/L); but there were samples exceeding the previous limit of 4.9 µg/L. An interim limit based on recent performance is necessary; therefore, 7.9 µg/L is established as the interim limitation, expressed as a daily maximum.

f. *Plant Performance and Attainability.* During the period January 2000 through March 2004, the plant's effluent concentrations ranged from 1.7 µg/L to 6.0 µg/L (33 samples). All samples are below the interim limit, therefore, it is expected that the Discharger can comply with the copper interim effluent limitation.

g. *Term of Interim Effluent Limitations.* The copper interim limitation shall remain in effect until May 17, 2010, or until the Regional Water Board amends the limitation based on additional data or SSOs.

h. *SSO.* During the permit term, the Regional Water Board may amend the copper WQBELs based on the SSO being developed for San Pablo Bay. San Pablo Bay SSOs will be applicable to the Petaluma River.

i. *Antibacksliding/Antidegradation.* As described in Finding 58.c, the SIP WQBELs are more stringent than the limit in the previous permit, so there is no antibacksliding. Antibacksliding does not apply to interim effluent limits, so long as there is compliance with antidegradation. The interim limit in this permit is in compliance with antidegradation, because it is based on current plant performance and will limit the discharge to existing treatment level. Even if antidegradation applies to interim limits, the interim limit in this permit is exempt pursuant to CWA 402(o)(2)(c).

59. Mercury

a. *Mercury WQOs/WQC.* Both the Basin Plan and the CTR include objectives and criteria that govern mercury in the receiving water. The Basin Plan specifies objectives for the protection of salt water aquatic life of 0.025 µg/L, as a 4-day average, and 2.1 µg/L as a 1-hour average. The CTR specifies a long-term average criterion for protection of human health of 0.051 µg/L.

b. *Mercury RPA Results.* Using Trigger 3 as defined in a previous finding, this Order establishes effluent limitations for mercury because San Pablo Bay is listed as impaired by mercury. Effluent limitations are necessary to limit the mercury loading into the Bay.

c. *Mercury WQBELs.* The mercury WQBELs calculated according to SIP procedures are 0.040 µg/L as the MDEL and 0.021 µg/L as the AMEL. The previous permit contains a WQBEL of 0.012 µg/L as AMEL, which is more stringent. Despite this, it is appropriate to apply the less stringent SIP WQBELs, in part because the Discharger has asserted that it is infeasible to achieve immediate compliance with the previous permit effluent limit. The Discharger's mercury effluent monitoring concentrations have been consistently low in the past (average effluent concentration is 0.0071 µg/L during January 2000 through March 2004); but there were samples exceeding the previous limit of 0.012 µg/L (MEC is 0.021 µg/L). The new WQBELs were calculated using applicable Basin Plan objectives and SIP procedures, so it will ensure protection of beneficial uses. Therefore, the new WQBELs are established as the effluent limits in this Order. When the Final Bay-wide mercury TMDL becomes effective, the Regional Water Board will amend the effluent limits in this Order to be consistent with the WLA and other requirements specified in the TMDL.

d. *Discharger's Performance and Attainability.* During the period January 2000 through March 2004, the Discharger's effluent mercury concentrations ranged from 0.0005 µg/L to 0.021 µg/L (30 samples). A statistical analysis of the performance data shows that the Discharger can comply with the effluent limitations for mercury.

e. *Mercury Source Control Strategy.* The Regional Water Board is developing a TMDL to control mercury levels in San Pablo Bay. The Regional Water Board, together with other stakeholders, will cooperatively develop source control strategies as part of the TMDL development. Municipal discharge point sources are not a significant source of mercury to San Pablo Bay. Therefore, the currently preferred strategy is to apply interim mass loading limits to point source discharges while focusing mass reduction efforts on other more significant and controllable sources. While the TMDL is being developed, the Discharger will cooperate in maintaining ambient receiving water conditions by complying with performance-based mercury mass emission limits. Therefore, this Order includes interim mass loading effluent limitation for mercury, as described in the findings below. The Discharger is required to implement source control measures and cooperatively participate in special studies as described below.

f. *Mercury TMDL*. The current 303(d) list includes San Pablo Bay as impaired by mercury, due to high mercury concentrations in the tissue of fish from the Bay. Methyl-mercury, the highly toxic form of mercury, is a persistent bioaccumulative pollutant. There is no evidence to show that the mercury discharged is taken out of the hydrologic system, by processes such as evaporation before reaching San Pablo Bay. Absent this evidence, the Regional Water Board assumes that the mercury reaches the Bay through either sediment transport or water flows. The Regional Water Board intends to establish a TMDL that will lead towards overall reduction of mercury mass loadings into San Pablo Bay. The final mercury effluent limitations will be based on the Discharger's WLA in the TMDL. While the TMDL is being developed, the Discharger will comply with mercury concentration and mass-based limitations to cooperate in maintaining

current ambient receiving water conditions. Additional, the trigger may be revised when effluent data from the new plant are available.

g. *Interim Mercury Mass Emission Limit.* In addition to the concentration-based mercury IPBL, this Order establishes an interim annual mercury mass loading limit of 0.60 kilogram per year (kg/yr). This limit is retained from the previous Order. It will maintain current loadings until a TMDL is established and is consistent with state and federal antidegradation and antibacksliding requirements. The final mass-based effluent limitation will be based on a WLA derived from the mercury TMDL for this discharge.

h. *Mass Trigger.* This Order establishes a mercury mass trigger of 0.0051 kilogram per month (kg/mo), which is based on recent plant performance during January 2000 through March 2004. The mass loading trigger, if exceeded, requires the Discharger to initiate additional actions, as specified in Provision F.8.

i. *Final Mercury Limitations.* Final mercury limitations will be revised/established to be consistent with the WLA assigned in the final mercury TMDL. While the TMDL is being developed, the Discharger will comply with performance-based mercury concentration and mass-based limitations to cooperate in maintaining current ambient receiving water conditions.

j. *Antibacksliding/Antidegradation.* CWA Section 402(o)(2)(c) provides an exception to antibacksliding that is applicable to less stringent limits for mercury in this case. Specifically, CWA Section 402(o)(2)(c) provides that "relaxation is allowed only to the treatment levels actually achieved" if "the permittee has installed treatment facilities required to meet effluent limitations in the previous permit and has operated and maintained the facilities but still has been unable to meet the effluent limitations." The Discharger's treatment system provides excellent removal for mercury. The Discharger has properly operated and maintained the treatment facilities, but still has been unable to meet the effluent limit. The new mercury WQBELs will ensure the mercury WQOs/WQC to be met in the receiving water. In addition, the new WQBELs are more stringent than a performance-based limit that would be established, as a result, they will hold the Discharger's effluent concentrations to the existing treatment level, and it will not cause the degradation of water quality in the receiving water. Therefore, the establishment of the SIP WQBELs, in place of the previous permit limit, is allowed and complies with antibacksliding requirements.

60. Nickel

a. *Nickel WQOs.* The Basin Plan contains numeric nickel saltwater WQOs which are 8.3 µg/L for chronic protection and 75 µg/L for acute protection, as total recoverable metal.

b. *RPA Results.* The maximum ambient background nickel concentration of 24.5 µg/L exceeds the governing WQO of 8.3 µg/L, and nickel was detected in the effluent, demonstrating reasonable potential by Trigger 2, as defined in a finding above.

c. *WQBELs.* The nickel WQBELs calculated according to SIP procedures are 11.0 µg/L as the MDEL and 7.5 µg/L as the AMEL. The previous permit contained a WQBEL of 7.1 µg/L as a daily average, which is more stringent. Therefore, the previous permit limit is retained as the WQBEL, expressed as a daily maximum.

d. *WWTP Performance and Attainability.* During the period January 2000 through March 2004, the Discharger's nickel effluent concentrations ranged from 2.7 µg/L to 6.8 µg/L (33 samples). All

samples are below the effluent limit of 7.1 µg/L, therefore, it is expected that the Discharger can comply with the effluent limit.

e. *Anti-backsliding/Anti-degradation.* The anti-backsliding and anti-degradation requirements are satisfied as the effluent limit is unchanged from the previous permit.

61. Selenium

a. *Selenium WQC.* To protect saltwater aquatic life, the NTR specifies objectives for selenium of 5 µg/L for chronic aquatic life protection and 20 µg/L for acute protection.

b. *WQBELs.* The selenium WQBELs calculated according to SIP procedures are 8.2 µg/L MDEL and 4.1 µg/L AMEL.

c. *RPA Results.* The maximum ambient background selenium concentration of 12 µg/L exceeds the governing WQC of 5 µg/L, and selenium was detected in the effluent, demonstrating reasonable potential by Trigger 2, as defined in a finding above.

d. *Plant Performance and Attainability.* During the period from January 2000 through March 2004, the WWTP's effluent MEC for selenium was 2 µg/L. The Discharger collected 33 samples, with only 5 detected values ranging from 0.6 to 2 µg/L. Due to larger numbers of non-detect values, it is not possible to perform a statistical analysis to determine corresponding percentiles for feasibility compliance determination. Since the MEC is lower than the more stringent AMEL, it is, therefore, expected that the Discharger can comply with the WQBELs.

e. *Antibacksliding/Antidegradation.* The previous permit does not contain an effluent limitation for selenium. Therefore, antibacksliding and antidegradation requirements do not apply.

62. Cyanide

a. *Cyanide WQC.* The NTR includes WQC that govern cyanide for the protection of aquatic life in salt surface water. The NTR specifies a saltwater Criterion Maximum Concentration (CMC) and Criterion Chronic Concentration (CCC) of 1 µg/L.

b. *RPA Results.* This Order establishes effluent limitations for cyanide because the 10 µg/L MEC exceeds the governing WQC of 1 µg/L, demonstrating reasonable potential by Trigger 1, as defined in a previous finding.

c. *WQBELs.* The cyanide WQBELs calculated according to SIP procedures are 1.0 µg/L MDEL and 0.5 µg/L AMEL.

d. *Immediate Compliance Infeasible.* The Discharger's Feasibility Study asserts that the Discharger cannot immediately comply with these WQBELs. Regional Water Board staff statistically analyzed the Discharger's effluent data from January 2000 through March 2004 and determined that the assertion of infeasibility is substantiated for cyanide (see Section IV.4.g and Table D of the attached Fact Sheet for detailed results of the statistical analysis).

e. Cyanide is a regional problem associated with the analytical protocol for cyanide analysis due to matrix inferences. There is also evidence to suggest that, to some degree, cyanide measured in effluents may be an artifact of the analytical method used or the result of analytical interferences. In general, the chemistry of cyanide formation in POTW effluents is highly complex, involving

both chemical and environmental factors, in ways that are still poorly understood, despite considerable research. In addition, it is not known whether the form(s) of cyanide that are measured in POTW effluents exhibit toxicity in these environments. A 3-year $1.5 million (M) investigation completed in late 2002, sponsored by the Water Environment Research Foundation (WERF), in which several Bay Area POTWs participated, described a number of possible mechanisms for cyanide formations, and shed new light on analytical issues, but found no process or operational measures that could be implemented by the Discharger to reduce observed cyanide levels in the effluent.

f. *SSO and Ambient Background Data Collection.* A regional discharger-funded study is underway for development of a cyanide SSO or recalculation of the criteria. The cyanide study plan was submitted on October 29, 2001, and the final report was submitted on June 29, 2003. The WQBELs will be re-calculated based on a cyanide SSO, or updated criteria if adopted. A draft Basin Plan amendment including new SSOs for the Bay, compliance strategies for shallow water dischargers, and implementation policy for the SSOs has been developed and is under public review and comment.

g. *Interim Effluent Limitation.* Because it is infeasible for the Discharger to immediately comply with the cyanide WQBELs, an interim limitation is required. Regional Water Board staff considered effluent data from January 2000 to March 2004 to develop an interim limitation. Historically, IPBLs have been referenced to the 99.87th percentile value of recent performance data. Statistical analysis of the cyanide effluent data indicates a 99.87th percentile value of 16.5 µg/L. The previous permit contained an interim limitation of 14 µg/L as a daily average, which is more stringent. Therefore, the previous permit limitation is retained as the interim limitation, expressed as a daily maximum.

h. *Plant Performance and Attainability.* During the period January 2000 through March 2004, the Discharger's cyanide effluent concentrations ranged from 1.4 µg/L to 10 µg/L (33 samples). All 33 samples were below the interim limitation of 14 µg/L. It is, therefore, expected that the plant can comply with the interim limitation for cyanide.

i. *Term of Interim Effluent Limitations.* The cyanide interim limitation shall remain in effect until April 27, 2010 or until the Regional Water Board amends the limitations based on additional data or SSOs.

j. *Anti-backsliding/Anti-degradation*. Although the interim limitation contained in the previous Order expired on July 15, 2003, the previous permit did not specify a WQBEL. As a result, the interim limit has been in effect until this Order becomes effective. Therefore, anti-backsliding/anti-degradation requirements are satisfied as the interim limit is unchanged from the previous permit.

63. Dioxins and Furans

a. *Dioxin WQC.* The CTR establishes a numeric human health WQC of 0.014 picogram per liter (pg/L) for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) based on consumption of aquatic organisms. The preamble of the CTR states that California NPDES permits should use toxicity equivalents (TEQs) where dioxin-like compounds have a reasonable potential with respect to narrative criteria. In U.S. EPA's National Recommended WQOs, December 2002, U.S.

EPA published the 1998 World Health Organization Toxicity Equivalence Factor (TEF)[2] scheme. In addition, the CTR preamble states U.S. EPA's intent to adopt revised WQC guidance subsequent to their health reassessment for dioxin-like compounds. The SIP applies to all toxic pollutants, including dioxins and furans. Staff used TEQs to translate the narrative WQOs to numeric WQOs for the other 16 congeners.

b. The Basin Plan contains a narrative WQO for bioaccumulative substances:

"Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

This narrative WQO applies to dioxin and furan compounds, based in part on the consensus of the scientific community that these compounds associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms.

c. U.S. EPA's 303(d) listing determined that the narrative objective for bioaccumulative pollutants was not met because of the levels of dioxins and furans in the fish tissue.

d. *RPA Results.* The dioxin TEQ MEC is above the governing WQC, triggers reasonable potential using Trigger 1, as defined in a previous finding.

e. *WQBELs.* The TCDD TEQ WQBELs calculated according to SIP procedures are 0.014 pg/L as the AMEL and 0.028 pg/L.

f. *Dioxin Effluent Limits.* Due to the limited monitoring data, no dioxin limits (final or interim) are established. The final limits for dioxin TEQ will be based on the WLA assigned to the Discharger in the TMDL. This Order requires additional dioxin monitoring to complement the Clean Estuary Partnership's special dioxin project, consisting of impairment assessment and a conceptual model for dioxin loading into the Bay. The permit will be reopened, as appropriate, to include interim dioxin limitations when additional data become available.

64. Bis(2-Ethylhexyl)Phthalate

a. *Bis(2-Ethylhexyl)Phthalate (BEHP) WQC.* The CTR establishes a human health value of 5.9 µg/L for BEHP, based on consumption of organisms.

b. *RPA Results.* The 12 µg/L MEC exceeds the governing WQO of 5.9 µg/L, demonstrating reasonable potential by Trigger 1, as defined in a finding above.

c. *BEHP Monitoring.* The WQBELs calculated for BEHP are: AMEL of 5.9 µg/L and MDEL of 11.8 µg/L. In addition to the MEC, which was detected during a non-discharge season, the Discharger has two other detected, but not quantified, values of 1 µg/L. Therefore, the Regional Water Board has determined that there is insufficient information to determine the feasibility of compliance. In addition, many POTWs in this area have encountered sampling contamination for

[2] The 1998 WHO scheme includes TEFs for dioxin-like PCBs. Since dioxin-like PCBs are already included within "Total PCBs," for which the CTR has established a specific standard, dioxin-like PCBs are not included in this Order's version of the TEF scheme.

this pollutant which may yield false positive high values. Therefore, this permit requires additional BEHP monitoring; when more data are available, the Regional Water Board will determine whether to include effluent limits for BEHP.

Whole Effluent Acute Toxicity

65. a. *Permit Requirements.* This Order includes effluent limits for whole-effluent acute toxicity that are unchanged from the previous Order. All bioassays shall be performed according to the U.S. EPA approved method in 40 CFR 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition." By a letter dated December 31, 2003, the Discharger requested to convert to the static renewal test after switching to the 5th edition in January 2004. The major difficulties associated with flow-through bioassay for the Discharger include clogging of the mesh of the testing container, low oxygen levels in the pond effluent during night, and hard to count fish due to high turbidity associated with algae. Since the Discharger's pond effluent is relatively homogenous throughout the day, the Regional Water Board approved the Discharger's request. The Discharger will be required to return to flow through testing once the new WWTP is operational or after the algae problem gets resolved for the existing facility.

b. *Compliance History.* The Discharger started to observe as high as 100% mortality to the fathead minnows, after it switched to the 5th Edition method. Elevated toxicity was observed during February and April 2004. The Discharger has performed parallel acute toxicity testing using zeolite; the results indicate ammonia is likely the pollutant that caused the observed toxicity.

c. *Ammonia Toxicity.* If acute toxicity is observed in the future and the Discharger believes that it is due to ammonia toxicity, this has to be shown through a Toxicity Identification Evaluation (TIE) acceptable to the Executive Officer. If the Discharger demonstrates to the satisfaction of the Executive Officer that exceedance of the acute toxicity limits is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, the such toxicity does not constitute a violation of this effluent limit. If ammonia toxicity is verified in the TIE, the Discharger may utilize an adjustment protocol approved by the Executive Officer for the routine bioassay testing.

Whole Effluent Chronic Toxicity

66. a. *Permit Requirements.* This permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective, and in accordance with U.S. EPA and State Water Board Task Force guidance, and BPJ. This permit includes the Basin Plan narrative toxicity objective as the applicable effluent limit, implemented via monitoring with numeric values as "triggers" to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The permit requirements for chronic toxicity are also consistent with the CTR and SIP requirements.

b. *Compliance Species.* The Discharger performed chronic toxicity screening phase tests in December 2002, January and February 2003. Among the four testing species - *Macrocystis pyrifera* (giant kelp), *Americamysis bahia* (mysid), *Atherinops affinis* (topsmelt), and *Pimephales promelas* (fathead minnow, the existing compliance species), mysid, which had an observed highest growth TUc of 3.1, is the most sensitive species identified during these three rounds of tests. The Discharger shall use *Americamysis bahia* (mysid) for compliance monitoring.

c. *Discharge Monitoring.* Chronic toxicity data from January 2000 through March 2004 has shown some, inconsistent low-level chronic toxicity in the effluent. The 3-sample median of 1 TUc and single sample maximum of 2 TUc triggers were exceeded twice and once, respectively, during this period. The Discharger is performing a TIE study, using zeolite to remove ammonia, and the zeolite-treated effluent has not shown any toxicity compared to the non-treated effluent.

d. *Permit Reopener.* The Regional Water Board will consider amending this permit to include numeric toxicity limits if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE workplan, following detection of consistent significant non-artifactual toxicity.

Coliform Alternate Limitations and Disinfection Study

67. This Order includes total coliform limitations, consistent with Table 4-2 of the Basin Plan, since a recent study demonstrates that the discharge does not compromise the beneficial uses of Petaluma River. Therefore, the Regional Water Board grants an exception to total coliform limits in Table 4-2 of the Basin Plan for shallow water dischargers. The Discharger may use alternative limitations of bacteriological quality instead of meeting the total coliform limitations in Section B.4. of this Order if the Discharger can establish to the satisfaction of the Executive Officer that the use of the enterococcus, *E. coli* or fecal coliform limitations will not result in unacceptable adverse impacts on the beneficial uses of the receiving water. The requirements are specified in Provision F.13.

68. *Disinfection Effectiveness Evaluation and Study*. The Discharger had over 40 total coliform limitation exceedances from 2000 through 2004, and it claims that the exceedances are related to the high algae concentrations in the oxidation pond effluent. The Discharger also claims that the tidal actions in the Petaluma River have affected its flow measurements, thus having impacts on its chlorine dosage control causing several chlorine residual violations. The Discharger is required by a provision in this Order to conduct a disinfection study to investigate measures to prevent bacterial limitation violations as well as the chlorine residual violations.

Total Suspended Solids

69. During January 2000 through March 2004, TSS concentrations in the discharge ranged from 8.0 mg/L to 84.7 mg/L. Effluent TSS concentrations exceeded the TSS effluent limitations or fell below the TSS minimum removal requirement 14 times during the discharge seasons from January 2000 through March 2004. The Discharger was required by the previous permit to evaluate measures of reducing TSS in its effluent. The Discharger submitted a study report in December 2002. The study indicates algae bloom is the major cause of the high TSS in the ponds' effluent during warmer weather. The study further indicates that dissolved air flotation units or treatment wetlands would be the best resolution for removing TSS from the pond effluent. The Discharger is building a new WWTP that includes treatment and polishing wetlands, which would address the TSS water quality issue. The new WWTP is expected to be put on line in 2008.

Basin Plan Discharge Prohibition

70. The Basin Plan prohibits the discharge of any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive an initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof. Discharge of wastewater to the Petaluma River is contrary to this prohibition, due to the tidal nature of the Petaluma River, and the limited fresh water flows upstream of the outfall. The discharge is classified as a shallow water discharge; therefore, effluent limitations are calculated assuming no dilution.

71. The Basin Plan provides that exceptions to the above prohibition will be considered for discharges where: 1) an inordinate burden would be placed on the Discharger relative to beneficial uses protected, and an equivalent level of environmental protection can be achieved by alternate means such as an alternative discharge site, a higher level of treatment, and/or improved treatment reliability; or, 2) the discharge is approved as a part of a reclamation project; or, 3) it can be demonstrated that net environmental benefits will be derived as a result of the discharge.

72. In addition to the criteria stated above for exceptions, the Basin Plan requires that the Regional Water Board consider the reliability of the Discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water, and the environmental consequences of such discharges.

73. The Discharger currently recycles treated wastewater for irrigation of agricultural lands used to grow fodder, fiber, or seed crops, and on lands used for pasture. The Discharger also recycles treated wastewater for irrigation of a golf course, a field located on property owned by the City of Petaluma, and land adjacent to the oxidation ponds where trees have been planted. The dry season prohibition period is May 1 through October 20 of each year. From 2000 through 2003, the Discharger recycled an average of 36% of its total influent flows, or 89% of its total dry weather flows.

74. The Discharger's pond system, utilized for both treatment and storage of wastewater, affords the Discharger a significant volume of storage capacity that can be used for containment of peak wet weather flows, or for emergency storage in the event of plant upset. The use of these ponds minimizes the possibility of discharge of untreated or partially treated wastewater to the Petaluma River.

75. The Regional Water Board finds that the water reuse program implemented by the Discharger complies with the exception provision of the Basin Plan. The Regional Water Board hereby grants an exception to the discharge prohibition for wet season discharges to the Petaluma River for a six-month period each year. This exception is subject to the following conditions. The Discharger shall:

    a. Continue to operate all treatment facilities to assure high reliability and redundancy;

    b. Continue to implement a source control program for any regulated chemical constituents that are consistently measured at levels in violation of permit effluent limitations;

    c. Continue to implement measures to maintain, repair, and upgrade the existing wastewater facilities so as to ensure continued operation and treatment capability in conformance with permit requirements;

    d. Continue progress towards construction of new or upgraded treatment facilities. These facilities are to be designed to ensure adequate capacity for community wastewater needs, and provide an adequate and reliable treatment process developed with sufficient flexibility and redundancy to comply with permit requirements as necessary to protect beneficial uses of the Petaluma River.

    e. Continue to promote and encourage beneficial reuse of treated wastewater.

Storm Water

76. Federal Regulations for storm water discharges were promulgated by the U.S. EPA on November 19, 1990. The regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require

specific categories of industrial activity (industrial storm water) to obtain a NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.

77. The State Water Board adopted a statewide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001, adopted in 1997). The General Permit is applicable to municipal wastewater treatment facilities. The Discharger filed a Notice of Intent for coverage by the General Permit, and a Storm Water Pollution Prevention Plan has been developed and implemented at the site for storm water flows that are directed to the Petaluma River. All pump stations serving the plant are constructed such that rainfall and storm water in contact with pump station equipment and/or sewage is self-contained, and flows to the treatment plant.

78. In order to consolidate permits for the facility, storm water flows from the site will henceforth be regulated by this Order, and coverage under the General Permit is terminated. These storm water flows constitute all industrial storm water at this facility and consequently this Order regulates all industrial storm water discharges at this facility, through continued implementation of the Storm Water Pollution Prevention Plan.

Pollution Prevention

79. The Discharger has established a Pollution Prevention Program under the requirements specified by the Regional Water Board.

    a. Section 2.4.5 of the SIP specifies under what situations and for which priority pollutant(s) (i.e., reportable priority pollutants) the Discharger shall be required to conduct a Pollutant Minimization Program in accordance with Section 2.4.5.1.

    b. There may be some redundancy between the Pollution Prevention Program and the Pollutant Minimization Program requirements.

    c. Where the two programs' requirements overlap, the Discharger is allowed to continue, modify, or expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

    d. For constituents identified under Effluent Limitations, Section B, the Discharger will conduct appropriate source control or pollutant minimization measures that are consistent with its approved Pollution Prevention Program. For constituents with compliance schedules under this permit, the applicable source control and pollutant minimization requirements of Section 2.1 of the SIP will also apply.

80. On October 15, 2003, the Regional Water Board adopted Resolution R2-2003-0096 in support of a collaborative working approach between the Regional Water Board and BACWA to promote Pollution Prevention Program development and excellence. Specifically, the Resolution embodies a set of 11 guiding principles that will be used to develop tools such as "P2 menus" for specific pollutants, as well as provide guidance in improving P2 program efficiency and accountability. Key guiding principles in the Resolution include promoting watershed, cross-program, and cross-media approaches to pollution prevention, and jointly developing tools to assess an individual Discharger's program performance, which may include peer reviews, self-audits, or other formats.

Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy

81. On August 6, 2001, the Regional Water Board sent a letter to all the permitted dischargers pursuant to Section 13267 of the California Water Code requiring the submittal of effluent and receiving water data on priority pollutants. This formal request for technical information addresses the insufficient effluent and ambient background data, and the dioxin study. The letter (described above) is referenced throughout the permit as the "August 6, 2001 Letter".

82. Pursuant to the August 6, 2001 Letter from Regional Water Board Staff, the Discharger submitted workplans and sampling results for characterizing the levels of selected constituents in the effluent. The Discharger has collected effluent samples and receiving water samples for the 126 priority pollutants. These data were used in the RPA and interim limitation calculations in this Order. The Discharger shall continue sampling for its receiving water and effluent according to its approved sampling plan, if it has not completed the requirements.

Monitoring Requirements (Self-Monitoring Program)

83. Monitoring Requirements (Self-Monitoring Program – Attachment E). The SMP includes monitoring at the outfall for conventional, non-conventional, toxic pollutants, and acute and chronic toxicity. Monitoring for conventional and non-conventional pollutants has remained the same as the previous permit except that the effluent settleable solids monitoring is no longer required since the settleable solids limitations have been eliminated. In addition to the plant influent and effluent flow monitoring, the Discharger shall also monitor the internal flows to treatment units and the oxidation ponds. This information will be used to evaluate the Discharger's performance when blending occurs. Monthly monitoring is required for copper, mercury, nickel, selenium, and cyanide to determine compliance with effluent limitations. Once per year monitoring for dioxins is required to provide information for TMDL development. Once per year monitoring for bis(2-ethylhexyl)phthalate is required to provide more data for future permit amendment or permit reissuance. The Discharger shall also continue its 13267 monitoring for the effluent and receiving water for all 126 priority pollutants according to its sampling plan. The results shall be submitted 180 days before the permit expires with the permit renewal application. With respect to effluent monitoring, the monitoring and reporting requirements of this Order supercede the requirements of the Executive Officer's August 6, 2001 letter.

    The Discharger shall also report its collection system overflows according to the Regional Water Board Executive Officer letter, dated November 15, 2004 (see **Attachment I**).

Pretreatment Program

84. *Pretreatment Program.* The Discharger has implemented and is maintaining an effective U.S. EPA approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR Part 403) and the requirements specified in **Attachment F** "Pretreatment Requirements". Order No. 01-059 amended the Discharger's permit (as well as fourteen other dischargers' permits in the Region) to reflect the Regional Water Board's most recent pretreatment requirements. The requirements of this Order supercede Order No. 01-059.

Optional Studies

85. *Optional Mass Offset.* This Order contains requirements to prevent further degradation of the impaired waterbody. Such requirements include the adoption of interim mass limitations that are

based on treatment plant performance, provisions for aggressive source control, feasibility studies for wastewater reclamation, and treatment plant optimization. After implementing these efforts, the Discharger may find that further net reductions of the total mass loadings of the 303(d)-listed pollutants to the receiving water can be achieved only through a mass offset program. This Order includes an optional provision for a mass offset program.

86. *Copper Translator Study.* An optional copper translator study is included in this permit to encourage the Discharger to develop a site-specific translator value for copper in place of the default translator values established in the SIP. The S IP, Section 1.4.1, and the June 1996 U.S. EPA guidance document, entitled *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion,* describe this process and provide guidance on how to establish a site-specific translator. During 2000 and 2001, the Discharger conducted some monitoring for the development of site-specific translators for copper and nickel. However, the sampling data are not sufficient to characterize seasonal variations. The Discharger may collect more data to augment the previous data set to develop the translators. The new translators to be developed, if approved by the Executive Officer, will be used for future permit reissuance.

O & M Manual

87. The Discharger maintains an Operations and Maintenance Manual (O & M Manual) to provide the WWTP and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.

CEQA Exemption, Notification, and Public Hearing

88. *NPDES Permit.* This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.

89. *Notification.* The Discharger and interested agencies and persons have been notified of the Regional Water Board's intent to reissue requirements for the existing discharges and have been provided an opportunity to submit their written views and recommendations. Regional Water Board staff prepared a Fact Sheet and Response to Comments, which are hereby incorporated by reference as part of this Order.

90. *Public Hearing.* The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code, regulations, and plans and policies adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. Discharge of wastewater at any point where it does not receive a minimum initial dilution of 10:1, or into dead-end slough and similar confined waters is prohibited, except as defined below. Based on findings above, an exception to this prohibition is granted for the discharge of treated effluent

during the wet season. Discharge of treated wastewater at a location or in a manner different from that described in the findings of this Order is prohibited.

2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the WWTP or from the collection system or pump stations tributary to the WWTP, is prohibited, except as authorized by this Order.

   The discharge of blended wastewater, that is, biologically treated wastewater blended with wastewater that has been diverted around biological treatment units or advanced treatment units, is allowable only (1) during the wet season, from October 21 through April 30, and (2) when the discharge complies with the effluent and receiving water limitations contained in this Order. Furthermore, the Discharger shall operate the WWTP as designed and in accordance with the O & M Manual developed for the WWTP. This means that the Discharger shall optimize storage and use of equalization units, and shall fully utilize the biological treatment units and advanced treatment units, if applicable. The Discharger shall report these incidents of blended effluent discharges in routine monitoring reports, and shall conduct monitoring of this discharge as specified elsewhere in this Order.

3. Average dry weather flow to the plant greater than 5.2 million gallons per day is prohibited. This Order authorizes increasing the permitted average dry weather flow limit up to 5.7 mgd in Phase 1, and up to 6.7 mgd in Phase 2 upon written approval from the Executive Officer, subject to the completion of the tasks identified in Provision F.16. The average dry weather flow to the new treatment plant greater than 6.7 mgd is prohibited. Average dry weather flow shall be determined for process water measured over a period of three consecutive dry weather months each year.

4. Discharge to the Petaluma River is prohibited during the dry season period each year, from May 1 through October 20, unless the Discharger submits a request, which may be submitted over the telephone to the Executive Officer and the Executive Officer approves it. This report must fully explain the need for discharges during this period (e.g., high flows related to late spring or early fall storm events, when reclamation is not feasible). Discharges during this period must meet all effluent limitations and monitoring requirements.

5. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the State are prohibited.

6. Storm water discharge from the facility grounds shall not cause pollution, contamination, or nuisance.

B. EFFLUENT LIMITATIONS

The term "effluent" in the following limitations means the fully treated wastewater effluent from the Discharger's WWTP, as discharged to the Petaluma River. The effluent discharged to the Petaluma River shall not exceed the following limits:

1. Conventional Pollutants Effluent Limitations:

Table 3. Effluent Limits for Conventional Pollutants

Constituent	Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
Biochemical Oxygen Demand (BOD_5, 20°C)	mg/L	30	45	--	--

Total Suspended Solids [1]	mg/L	45	65	--	--
Oil & Grease	mg/L	10	--	20	--
Chlorine Residual [2]	mg/L	--	--	--	0.0

[1] After the new WWTP is operational (a certification or letter shall be submitted to the Regional Water Board as required by Provision F.16), TSS effluent limits shall be as follows:

Constituent	Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
Total Suspended Solids	mg/L	30	45	--	--

[2] The chlorine residual requirement is defined as below the limit of detection in standard methods defined in *Standard Methods for the Examination of Water and Wastewater.* The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine and sodium bisulfate dosage (which could be interpolated), and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that these false positive chlorine residual exceedances are not violations of this permit limitation.

2. pH: The pH of the discharge shall not exceed 8.5 nor be less than 6.5. If the Discharger employs continuous pH monitoring, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied:

   a. The total time during which the pH values are outside the required range shall not exceed 7 hours and 26 minutes in any calendar month.

   b. No individual excursion from the required range of pH values shall exceed 60 minutes.

3. Total Coliform:

   The Discharger shall comply with the following total coliform limitations:

   a. The moving median value for the MPN of total coliform bacteria in any five consecutive samples shall not exceed 23 MPN/100 mL; and

   b. Any single sample shall not exceed 240 MPN/100 mL.

   The Discharger may use alternate limits of bacteriological quality instead of meeting 3.a and 3.b above if the Discharger can establish to the satisfaction of the Executive Officer through the performance of a special study that the use of the fecal coliform, enterococci, or *E. coli* limits will not result in unacceptable adverse impacts on the beneficial uses of the receiving water. During the Study, the Discharger is conditionally exempt from the total coliform limit during the data collection period. If there is a total coliform exceedance during the data collection period, the Discharger shall demonstrate that the exceedance is due to the study (in the process of dosage reduction); alternate bacteriological effluent limits are met, and receiving water quality objectives as specified in Table 3-1 for total coliform or fecal coliform are also met, in order for the exemption to apply (see Provision F.13).

4. 85 Percent Removal, BOD_5 and TSS: The arithmetic mean of the BOD (Five-day, 20°C) and total suspended solids values, by concentration, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values for influent samples collected at approximately the same times during the same period.

5. Acute Toxicity:

   a. Representative samples of the discharge shall meet the following limits for acute toxicity. Bioassays shall be conducted in compliance with Provision F.9.

      The survival of organisms in undiluted effluent from parallel 96-hour static renewal* bioassays shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival.

      * After the new WWTP is operational, the Discharger shall switch to flow-through bioassay test unless it submits a request to the Executive Officer demonstrating why flow-through is not feasible and the Executive Officer approves it.

   b. These acute toxicity limits are further defined as follows:

      11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

      90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

   c. Bioassays shall be performed using the most up-to-date U.S. EPA protocol and the most sensitive species as specified in writing by the Executive Officer based on the most recent screening test results. Bioassays shall be conducted in compliance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms", currently 5th Edition (EPA-821-R-02-012), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) upon the Discharger's request with justification.

   d. If the Discharger demonstrates to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limitation.

6. Chronic Toxicity:

   a. Compliance with the Basin Plan narrative toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated effluent meeting test acceptability criteria and Provision F.10:

      (1) Routine monitoring;

      (2) Accelerated monitoring to a monthly basis after exceeding a three sample median value of 1 chronic toxicity (1 TUc)[3] or a single sample maximum of 2 TUc or greater.

[3] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC, EC, or NOEC values. Monitoring and TRE requirements may be modified by the Executive Officer in response to the

(3) Return to routine monitoring if accelerated monitoring does not exceed either "trigger" in "2", above;

(4) Initiate approved toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) work plan if accelerated monitoring confirms consistent toxicity above either "trigger" in "2", above;

(5) Return to routine monitoring after appropriate elements of TRE work plan are implemented and either the toxicity drops below "trigger" level in "2", above or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

b. *Test Species and Methods*: The Discharger shall conduct routine monitoring with the most sensitive species determined during the most recent chronic toxicity screening performed by the Discharger and approved by the Executive Officer. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in **Attachment A** of the SMP. In addition, bioassays may be conducted in compliance with the most recently promulgated test methods, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms," currently third edition (EPA-821-R-02-014), and "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," currently fourth Edition (EPA-821-R-02-013), with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

7. Toxic Substances Effluent Limitations:
The discharge of effluent containing constituents in excess of the following limitations is prohibited:

Table 4. Effluent Limits for Toxic Pollutants [1][2]

Constituents		WQBELs		Interim Limits	
Pollutants	Notes	Daily Maximum (MDEL) µg/L	Monthly Average (AMEL) µg/L	Daily Maximum µg/L	Monthly Average µg/L
Copper	[3]	5.2	3.3	7.9	
Mercury	[4]	0.040	0.021		
Nickel			7.1		
Selenium		8.2	4.1		
Cyanide	[3][5]	1.0	0.5	14	

[1] a. Compliance with these limitations is intended to be achieved through secondary treatment and, as necessary, pretreatment and source control.

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degree of toxicity detected in the effluent or in ambient waters related to the discharge. Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limits for chronic toxicity

b. All analyses shall be performed using current U.S. EPA methods, or equivalent methods approved in writing by the Executive Officer. The Discharger is in violation of the limitation if the discharge concentration exceeds the effluent limitation and the Reporting Level (as defined in the SIP) for the analysis for that constituent.

c. Limitations apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month).

d. All metal limitations are total recoverable.

[2] A daily maximum or average monthly value for a given constituent shall be considered noncompliant with the effluent limits only if it exceeds the effluent limitation and the Reporting Level for that constituent. The table below indicates the Minimum Level (ML) upon which the Reporting Level is based for compliance determination purposes.

Constituent	**ML (µg/L)**
Copper	0.5
Mercury	0.002
Nickel	1
Selenium	1
Cyanide	5

[3] The interim limitations for copper shall remain in effect until May 17, 2010, and for cyanide until April 27, 2010 or until the Regional Water Board amends the limitation based on SSOs. WQBELs shall become effective on May 18, 2010 and April 28, 2010 for copper and cyanide, respectively.

[4] Effluent mercury monitoring shall be performed by using ultra-clean sampling and analysis techniques, with a method detection limit of 0.002 µg/L or lower.

[5] Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

8. Until TMDL and WLA efforts for mercury provide enough information to establish a different WQBEL, the Discharger shall demonstrate that the current mercury mass loading to the receiving water does not increase by complying with the following:

a. Mass limit: The 12-month moving average annual load for mercury shall not exceed **0.6 kg/year**. This limit is retained from the previous Order. Compliance shall be calculated using moving average flows and concentrations from the entire year (during both discharge and reclamation months).

b. Mass trigger: If the 12-month moving average monthly mass loading for mercury exceeds **0.0051 kg/month**, the actions specified in Provision F.7 shall be initiated. It was calculated from the highest of the moving average load taken from moving average flows times the corresponding moving average mercury concentrations (flows were set to zero if there was no river discharge). Failure to initiate and complete the actions will be considered a permit condition violation.

c. Compliance determination method: The mass emission limit (or trigger) for mercury shall be calculated as follows:

Flow [1]= Running average of last 12 months of effluent flow in mgd, measured at E-001, prior to reuse or discharge to the Petaluma River.

Hg Conc. [2] = Running average of last 12 monthly mercury concentration measurements in µg/L corresponding to the above flows, measured at E-001.

Mass emission limit, in kg/year = Flow × Hg Conc. × 1.3815
Mass emission trigger, in kg/month = Flow × Hg Conc. × 0.1151

[1] For mass emission trigger calculation, if there is no river discharge during a calendar month, the flow is set to zero for the calculation.

[2] If there is no mercury effluent data, i.e., during non-discharge season, the concentration for that calendar month is set to blank in the spreadsheet. If more than one measurement is obtained in a calendar month, the average of these concentrations is used as the monthly value for that month. If the results are less than the method detection limit used, the concentrations are assumed to be equal to the method detection limit.

d. The mercury TMDL and WLAs will supersede this interim mass emission limitation upon their adoption. The Clean Water Act's anti-backsliding rule, Section 402(o), indicates that this Order may be modified to include a less stringent requirement following adoption of the TMDL and WLA, if the requirements for an exception to the rule are met.

C. POND SPECIFICATIONS

1. A minimum freeboard of two feet shall be maintained in all ponds at all times. Exceptions to this requirement are allowed when an increase in pond storage capacity is needed just prior to, or during the reclamation season, providing there is no threat of overflow due to storm conditions or otherwise. During these periods when the storage capacity is needed, a freeboard of one foot shall be maintained, and the Discharger shall ensure that the higher pond levels do not threaten the integrity of the pond levees.

2. All ponds shall be protected from erosion, washout, and flooding from the maximum flood having a predicted frequency of once in 100 years.

3. The waste shall not cause significant degradation of any ground water so as to impair beneficial uses.

D. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State any one place within one foot of the water surface:

   a. Dissolved Oxygen: 5.0 mg/L, minimum

      The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

   b. Dissolved Sulfide: 0.1 mg/L, maximum

   c. pH: Variation from normal ambient pH by more than 0.5 pH units.

   d. Un-ionized Ammonia: 0.025 mg/L as N, annual median
      0.16 mg/L as N, max.

   e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board may revise and modify this Order in accordance with such more stringent standards.

4. Storm Water Discharge

   a. Storm water discharges shall not adversely impact human health or the environment.

   b. Storm water discharges shall not cause or contribute to a violation of any applicable water quality objective for receiving waters contained in the Basin Plan.

E. SLUDGE MANAGEMENT PRACTICES

1. All sludge generated by the Discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 503. If the Discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to the USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR 503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger.

2. Sludge treatment, storage, and reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

3. Duty to mitigate: The Discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.

4. The discharge of biosolids shall not cause waste material to be in a position where it is, or can be carried from the sludge treatment and storage site and deposited in the waters of the State.

5. The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.

6. For sludge that is applied to the land, placed on a surface disposal site, or fired in a biosolids incinerator as defined in 40 CFR 503, the Discharger shall submit an annual report to the U.S. EPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR 503, postmarked February 15 of each year, for the period covering the previous calendar year.

7. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual self-monitoring report, the Discharger shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.

8. Permanent on-site sludge storage or disposal activities are not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.

9. Sludge Monitoring and Reporting Provisions of this Regional Water Board's "Standard Provisions and Reporting Requirements", dated August 1993, apply to sludge handling, disposal and reporting practices.

F. PROVISIONS

1. Permit Compliance and Rescission of Previous Waste Discharge Requirements

The Discharger shall comply with the limitations, prohibitions, and other provisions of this Order immediately on the effective date of this NPDES Permit. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 98-076. Order No. 98-076 is hereby rescinded upon the effective date of this Order.

2. Effluent Characterization for Selected Constituents

The Discharger shall monitor and evaluate the discharge from Outfall E-001 for the constituents listed in Enclosure A of the Regional Water Board’s August 6, 2001 Letter, according to its approved sampling plan submitted under the August 6, 2001 Letter. The Discharger shall monitor, at a minimum, one sampling event for the constituents listed in Enclosure A of the Regional Water Board’s August 6, 2001 Letter, during the permit term. Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Water Board’s August 6, 2001 Letter under Effluent Monitoring for Major Dischargers.

Reporting: A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

3. Ambient Background Receiving Water Study

The Discharger shall continue to collect background ambient receiving water data. To fulfill this requirement, the Discharger shall submit data sufficient to characterize the concentration of each toxic pollutant listed in the CTR in the ambient receiving water. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the ambient receiving water at a point after the discharge has mixed with the receiving waters.

Final Report: The Discharger shall submit a final report that presents all the data to the Regional Water Board 180 days prior to Order expiration. This final report shall be submitted with the application for permit reissuance.

4. Cyanide Compliance Schedule and SSO Study

The Discharger shall comply with the following tasks and deadlines:

Tasks	Compliance Date
a. *Compliance Schedule.* The Discharger should track relevant national studies, and participate in regional studies as described in findings (under Cyanide) above. Results from these studies should enable the Regional Water Board to determine compliance with final WQBELS during the next permit reissuance.	Annual progress reports as part of annual self-monitoring reports.
b. *SSO Study.* The Discharger shall actively participate in the development of regional SSOs for cyanide. Participation through BACWA studies satisfies this task.	Annual progress reports by cyanide work group due February 1st of each year until completion
c. Conduct evaluation of compliance attainability with limitations derived using new objectives.	Within 3 years of effective date of this Order.

5. Copper Study and Schedule - Regional Site-Specific Objective Study for Copper

The Discharger shall continue its participation in the regional discharger-funded effort to develop site-specific saltwater aquatic life-based WQOs for copper in San Francisco Bay north of the Dumbarton Bridge. The Discharger shall also participate in the development of a Copper Management Strategy (CMS), acceptable to the Executive Officer, designed to ensure that copper concentrations will not increase unacceptably in the receiving water as a result of controllable discharges. The CMS will describe baseline actions for wastewater and storm water dischargers and a program of additional monitoring and actions to be taken by those dischargers, triggered by specified increases in ambient copper concentrations.

6. Disinfection Effectiveness Evaluation and Study

The Discharger shall comply with the following tasks and deadlines:

Tasks	Compliance Date

Tasks	Compliance Date
a. The Discharger shall submit a study plan to evaluate the effectiveness of the disinfection system, investigate possible causes of historical bacterial limitation exceedances, and propose feasible corrective actions, a schedule should also be included to implement the corrective actions.	Within 90 days after permit becomes effective.
b. Upon approval by the Executive Officer, or after 45 days of study plan submittal if the Executive Officer has not commented, the Discharger shall start implementing the approved study plan.	Within 30 days after the study plan is approved by the Executive Officer.
c. The Discharger shall submit a report, acceptable to the Executive Officer, summarizing study results and findings.	Within 6 months after completion of study plan.

If the Discharger demonstrates that there are no feasible remedies to address total coliform violations before the new WWTP is built, the Discharger shall propose a schedule with justifications to implement effective measures until the new WWTP is operational.

7. Pollution Prevention and Pollutant Minimization Program

a. The Discharger shall continue to improve its existing Pollution Prevention Program to reduce loadings of pollutants to the plant and therefore to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each year. Annual reports shall cover January through December of the preceding year. Annual reports shall include at least the following information:

i. *A Brief Description of the Plant, Plant Processes, and Service Area*.

ii. *A Discussion of the Current Pollutants of Concern.* Periodically, the Discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen. In particular, the Discharger shall address those pollutants for which there have been granted compliance schedules, specifically, copper and cyanide.

iii. *Identification of Sources for the Pollutants of Concern*. This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants. The Discharger shall also identify sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.

iv. *Identification of Tasks to Reduce the Sources of the Pollutants of Concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks itself or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so.

v. *Outreach to Employees.* The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these

pollutants of concern into the plant. The Discharger may provide a forum for employees to provide input to the Program.

vi. *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution prevention to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach program, conducting plant tours, and providing public information in newspaper articles or advertisements, radio, television stories or spots, newsletters, utility bill inserts, and web site. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

vii. *Discussion of Criteria Used to Measure the Program's and Tasks' Effectiveness*. The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Prevention Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item b. (iv), b. (v), and b. (vi).

viii. *Documentation of Efforts and Progress.* This discussion shall detail all the Discharger's activities in the Pollution Prevention Program during the reporting year.

ix. *Evaluation of Program's and Tasks' Effectiveness.* The Discharger shall use the criteria established in b. (vii) to evaluate the Program's and tasks' effectiveness.

x. *Identification of Specific Tasks and Time Schedules for Future Efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks to more effectively reduce the amount of pollutants to the plant, and subsequently in its effluent.

c. According to Section 2.4.5 of the SIP, when there is evidence that a priority pollutant is present in the effluent above an effluent limitation and either:

i. A sample result is reported as detected, but not quantified (less than the Minimum Level) and the effluent limitation is less than the reported Minimum Level,

ii. A sample result is reported as not detected (less than the Method Detection Limit) and the effluent limitation is less than the Method Detection Limit; or,

iii. The dioxin TEQ exceeds the WQO (0.014 pg/L); then

The Discharger shall expand its existing Pollution Prevention Program to include the reportable priority pollutant. A priority pollutant becomes a reportable priority pollutant (1) when there is evidence that it is present in the effluent above an effluent limitation and either (c)(i) or c(ii) is triggered or (2) if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

d. If triggered by the reasons in c. above and notified by the Executive Officer, the Discharger's Pollution Prevention Program shall, within 6 months, also include the following:

i. An annual review and semiannual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or

alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data.

ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data.

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation.

iv. Development of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy.

v. An annual status report that shall be sent to the Regional Water Board including the following:
(1) All Pollution Prevention monitoring results for the previous year
(2) A list of potential sources of the reportable priority pollutant(s)
(3) A summary of all actions undertaken pursuant to the control strategy
(4) A description of actions to be taken in the following year.

e. To the extent that the requirements of the Pollution Prevention Program and the Pollutant Minimization Program overlap, the Discharger is allowed to continue, modify, or expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

f. These Pollution Prevention/Pollutant Minimization Program requirements are not intended to fulfill the requirements in the Clean Water Enforcement and Pollution Prevention Act of 1999 (Senate Bill 709).

8. Mercury Mass Loading Reduction

If mass loading for mercury exceeds the trigger level specified in B.8 of this Order, then the following actions shall be initiated and subsequent reports shall include but not be limited to the following:

a. Notification: Any exceedance of the trigger specified in Effluent Limitation B.8.b shall be reported to the Regional Water Board in accordance with Section E.6.b. In the Standard Provisions and Reporting Requirements (August, 1993).
b. Identification of the problem: Resample to verify the increase in loading. If resampling confirms that the mass loading trigger has been exceeded, determine whether the exceedance is flow or concentration-related. If the exceedance is flow-related, identify whether it is related to changes in reuse, increases in the number of sewer connections, increases in infiltration and inflow (I/I), wet weather conditions, or unknown sources. If the exceedance is concentration-related, identify whether it is related to industrial, commercial, residential, or unknown sources.

c. Investigation of corrective action: Investigate the feasibility of the following actions: • Improving public education and outreach • Reducing inflow and infiltration (I/I) • Increasing reuse Within 60 days after confirmed exceedance of trigger, develop a plan and include a time schedule as short as practicable, acceptable to the Executive Officer, to implement reasonable actions to maintain mercury mass loadings at or below the mass loading trigger contained in Effluent Limitation B.8.b.
d. Investigation of aggressive prevention/reduction measures. In the event the exceedance is related to growth and the plan required under (c) above is not expected to keep mercury loads below the mass load trigger, the Discharger shall submit a plan, acceptable to the Executive Officer. The plan should include an initiative to work with the local planning department to investigate the feasibility and potential benefits of requiring water conservation, reuse, and dual plumbing for new development. This plan should be implemented as soon as practicable.

9. Whole Effluent Acute Toxicity

Compliance with acute toxicity requirements of this Order shall be achieved in accordance with the following:

a. Compliance with the acute toxicity effluent limits of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour static renewal bioassays.

b. Test organisms shall be rainbow trout and fathead minnow tested concurrently during a screening period. Following receipt of the acute toxicity screening study, the Executive Officer will allow compliance monitoring with only one fish species (the most sensitive, if determined), if the Discharger can also document that the acute toxicity has been observed in only one fish species. If neither fish shows sensitivity, the Discharger may continue routine compliance testing using either fathead minnow or rainbow trout.

c. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR Part 136, currently in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,"5th Edition. The Discharger shall switch to flow-through bioassays once the new WWTP is operational or the algae problem associated with the pond effluent is corrected, whichever is earlier.

10. Whole Effluent Chronic Toxicity

The Discharger shall monitor and evaluate the effluent from the treatment plant for chronic toxicity in order to demonstrate compliance with the Basin Plan narrative toxicity objective. Compliance with this requirement shall be achieved in accordance with the following.

a. The Discharger shall conduct routine chronic toxicity monitoring in accordance with the SMP of this Order.

b. If data from routine monitoring exceed either of the following evaluation parameters, then the Discharger shall conduct accelerated chronic toxicity monitoring. Accelerated monitoring shall be performed on a monthly basis.

c. Chronic toxicity evaluation parameters:

(1) A three sample median value of 1 TU_c; and

(2) A single sample maximum value of 2 TU_c.

(3) These parameters are defined as follows:

(a) Three-sample median: A test sample showing chronic toxicity greater than 1 TU_c represents an exceedance of this parameter, if one of the past two or fewer tests also show chronic toxicity greater than 1 TU_c.

(b) TU_c (chronic toxicity unit): A TU_c equals 100/NOEL (e.g., If NOEL = 100, then toxicity = 1 TUc). NOEL is the no observed effect level determined from IC, EC, or NOEC values.

(c) The terms IC, EC, NOEL and NOEC and their use are defined in **Attachment A** of the Self-Monitoring Program (SMP).

d. If data from accelerated monitoring tests are found to be in compliance with the evaluation parameters, then routine monitoring shall be resumed.

e. If accelerated monitoring tests continue to exceed either evaluation parameter, then the Discharger shall initiate a chronic toxicity reduction evaluation (TRE).

f. The TRE shall be conducted in accordance with the following:

(1) The Discharger shall prepare and submit a TRE workplan to the Regional Water Board for Executive Officer approval. An initial generic workplan shall be submitted within 120 days of the date of adoption of this Order. The workplan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

(2) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either evaluation parameter.

(3) The TRE shall be conducted in accordance with an approved workplan.

(4) The TRE needs to be specific to the discharge and Discharger facility, and may be in accordance with current technical guidance and reference materials including U.S. EPA guidance materials. TRE should be conducted as a tiered evaluation process, such as summarized below:

(a) Tier 1 consists of basic data collection (routine and accelerated monitoring).
(b) Tier 2 consists of evaluation of optimization of the treatment process including operation practices, and in-plant process chemicals.
(c) Tier 3 consists of a toxicity identification evaluation (TIE).
(d) Tier 4 consists of evaluation of options for additional effluent treatment processes.
(e) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.
(f) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

(5) The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity.

(6) The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies should be employed.

(7) As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.

(8) Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.

(9) The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

g. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in **Attachment A** of the SMP. The Discharger shall comply with these requirements as applicable to the discharge.

11. Sanitary Sewer Management Plan

The Discharger shall fully participate in the sanitary sewer overflow control program developed by the Regional Water Board in collaboration with BACWA. The Discharger shall report sanitary sewer overflows electronically and develop and implement a discharger-specific sanitary sewer management plan (SSMP) as specified in the Regional Water Board's letters dated November 15, 2004 and July 7, 2005, respectively.

12. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of the 303(d)-listed pollutants to the receiving water cannot be achieved through economically feasible measures such as aggressive source control, feasibility studies for wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger may submit to the Regional Water Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

13. Optional Receiving Water Beneficial Use and Alternative Bacteriological Limits Study

To develop information that may be used in a subsequent Order amendment to establish alternative bacteria limits, the Discharger may conduct a receiving water beneficial use study to assess the appropriateness of testing for enterococci, fecal coliform and/or *E. coli* instead of total coliform concentrations in compliance with Basin Plan bacteriological objectives. Depending on the results of the final study, the Order may be amended to specify total coliform, enterococci, fecal coliform, or *E. coli* limits.

Tasks	Compliance Date
a. Develop a study plan to include, a receiving water bacteria study, selection and justification for alternative bacteriological limit (enterococci, fecal coliform, or *E. coli*), and tasks and schedules necessary to assess the beneficial uses attributed to the outfall location. The study shall also include other basic elements, but not limited to, a survey of the river and beach in the vicinity of the discharge; monitoring of the receiving water body to demonstrate compliance with water quality objectives for bacteria by using alternate effluent limitations for the discharge.	At the Discharger's discretion during the Order term.
b. Upon approval by the Executive Officer, or after 45 days of study plan submittal if the Executive Officer has not commented, the Discharger shall commence work in accordance with the study plan and time schedule submitted pursuant to the approved plan.	As specified in the study plan.
c. Submit a final report, acceptable to the Executive Officer, documenting the results of the beneficial use investigation described above.	As specified in the study plan.

During the study, the Discharger is conditionally exempt from the total coliform limit during the data collection period unless the following condition is met: If there is a total coliform exceedance during the data collection period, the Discharger shall demonstrate that the exceedance is due to the study (in the process of dosage reduction); alternate bacteriological effluent limits are met, and receiving water quality objectives as specified in Table 3-1 for total coliform or fecal coliform are also met, in order for the exemption to apply.

14. Optional Copper Translator Study and Schedule

To develop information that may be used to establish WQBELs based on dissolved criteria for copper, optionally, the Discharger may implement a sampling plan to collect data for development of dissolved-to-total translators for copper in the Discharger's receiving water - Petaluma River. If the Discharger chooses to proceed with the study, the work shall be performed in accordance with the following tasks:

Tasks	Schedule
a. Develop a study plan. The study plan shall outline data collection for establishment of dissolved-to-total copper translators, as discussed in the findings. The study plan shall provide for development of translators in accordance with the State Water Board's SIP, U.S. EPA guidelines, California Department of Fish and Game approval, and any relevant portions of the Basin Plan, as amended.	At the Discharger's discretion during the Order term.
b. If the Discharger conducts a translator study, it will use field sampling data approximate to the discharge point and in the vicinity of the discharge point, or as otherwise provided for in the approved workplan.	As specified in the study plan.

Tasks	Schedule
c. A final report, acceptable to the Executive Officer, should be submitted, documenting the results of the copper translator study.	As specified in the study plan.

The study may include any other site-specific information that the Discharger would like the Regional Water Board to consider in the development of a water quality-based effluent limit for copper. The Discharger may also collect data for development of other metal translators, such as nickel, during this study.

15. Status Reports on New or Upgraded Facility

The Discharger shall submit status reports annually until the new or upgraded facility is fully operational, and this permit is amended to incorporate new information relevant to that facility. These status reports shall provide detailed discussion of progress made towards finalization of the design, construction, and permitting of the new or upgraded facility, along with projected schedules for future actions. The status report may be submitted as part of the annual self-monitoring report.

After the new WWTP construction is completed and the WWTP is certified to be operational, the Discharger shall submit to the Regional Water Board a letter indicating the official operation time of the new WWTP.

16. Permitted Treatment Plant Flow Increase

The permitted average dry weather flow capacity of the plant identified in Prohibition A.3 of this Order may be increased to either 5.7 mgd, or 6.7 mgd by written approval from the Executive Officer, in accordance with the following conditions:

a. Completion of the proposed improvements to the existing plant or construction of the new or upgraded WWTP.

b. Facility capacity and reliability: Documentation of adequate reliability, capability and performance of the wastewater facilities in order to maintain compliance with waste discharge requirements. Hydraulic and organic loading capacities of the treatment facilities shall be evaluated by appropriate combinations of desk-top analyses and treatment process stress testing to simulate design peak loading conditions. Evaluation shall include treatment process operations under both dry weather and wet weather design flow conditions, and effluent disposal capacity including storage and discharge to land through reuse.

c. Compliance with all applicable provisions of the California Environmental Quality Act (California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.).

d. Adequate financial provisions to ensure adequate operation and maintenance of the wastewater facilities.

e. Documentation of completion or implementation of the above measures, to the Executive Officer's satisfaction.

17. Storm Water Pollution Prevention Plan (SWPPP)

The Discharger shall continue to implement its Storm Water Pollution Prevention Plan (SWPPP) in accordance with the attached "Standard Storm Water Provisions". The SWPPP shall be reviewed and

updated as appropriate by October 1 of every year. Full compliance with the "Standard Storm Water Provisions" shall be an enforceable requirement of this permit. The SWPPP shall include a storm water monitoring program, designed to meet the following objectives:

a. To monitor the quality of storm water discharges relative to Discharge Prohibitions and Receiving Water Limitations.

b. To aid in the implementation of the SWPPP.

c. To measure the effectiveness of control measures and management practices in removing pollutants in storm water discharge.

18. Pretreatment Program

The Discharger shall implement and enforce its approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR Part 403), pretreatment standards promulgated under Sections 307(b), 307(c) and 307(d) of the Clean Water Act, and the requirements in **Attachment F**, "Pretreatment Requirements". The Discharger's responsibilities include but are not limited to:

a. Enforcement of National Pretreatment Standards of 40 CFR 403.5 and 403.6;

b. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR Part 403) and its approved pretreatment program;

c. Submission of reports to U.S. EPA, the State Water Board, and the Regional Water Board, as described in Attachment F "Pretreatment Requirements".

The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this permit. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board, or the U.S. EPA may take enforcement actions against the Discharger as authorized by the Clean Water Act.

19. Wastewater Facilities, Review and Evaluation, and Status Reports

a. The Discharger shall operate and maintain its wastewater collection, treatment, and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

b. The Discharger shall regularly review and evaluate its wastewater facilities and operation practices in accordance with section a. above. Reviews and evaluations shall be conducted as an ongoing component of the Discharger's administration of its wastewater facilities.

c. The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its wastewater facilities and operation practices, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each Annual Self-Monitoring Report, a description or summary of review and evaluation procedures, and applicable wastewater facility programs or capital improvement projects.

20. Operations and Maintenance Manual, Review and Status Reports

a. The Discharger shall maintain an O & M Manual as described in the findings of this Order for the Discharger's wastewater facilities. The O & M Manual shall be maintained in usable condition, and available for reference and use by all applicable personnel.

b. The Discharger shall regularly review, revise, or update, as necessary, the O & M Manual(s) so that the document(s) may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

c. The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its O&M manual, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each Annual Self-Monitoring Report, a description or summary of review and evaluation procedures, and applicable changes to, its operations and maintenance manual.

21. Contingency Plan, Review and Status Reports

a. The Discharger shall maintain a Contingency Plan as required by Regional Water Board Resolution 74-10 (available online—see Standard Language and Other References Available Online, below), and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

b. The Discharger shall regularly review, and update as necessary, the Contingency Plan so that the plan may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.

c. The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its contingency plan review and update. The Discharger shall also include, in each annual self-monitoring Report, a description or summary of review and evaluation procedures, and applicable changes to, its contingency plan.

22. 303(d)-Listed Pollutants, Site-Specific Objective and TMDL Status Review

The Discharger shall participate in the development of a TMDL or SSO for copper, cyanide, mercury, 4,4'-DDE, dioxin TEQ, and dieldrin. By January 31 of each year, the Discharger shall submit an update to the Regional Water Board to document its participation efforts toward development of the TMDL(s) or SSO(s). The Discharger can submit updates through the regional BACWA studies for these pollutants. Regional Water Board staff shall review the status of TMDL development. This Order may be reopened in the future to reflect any changes required by TMDL development or adoption.

23. New Water Quality Objectives

As new or revised WQOs come into effect for the Bay and contiguous waterbodies (whether statewide, regional, or site specific), effluent limitations in this Order will be modified as necessary to reflect updated WQOs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs.

24. Self-Monitoring Program

The Discharger shall comply with the SMP for this Order as adopted by the Regional Water Board. The SMPs may be amended by the Executive Officer pursuant to U.S. EPA regulation 40 CFR 122.63.

25. Standard Provisions and Reporting Requirements

The Discharger shall comply with all applicable items of the attached Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993 (the Standard Provisions), or any amendments thereafter. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the specifications of this Order shall apply.

26. Change in Control or Ownership

In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board. To assume responsibility for and operations under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order (see Standard Provisions and Reporting Requirements, August 1993, Section E.4.). Failure to submit the request shall be considered a discharge without requirements, and a violation of the California Water Code.

27. Order Reopener

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances:

(1) If present or future investigations demonstrate that the discharge(s) governed by this Order will or have a reasonable potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters;

(2) If new or revised WQOs come into effect for the San Francisco Bay estuary and contiguous waterbodies (whether statewide, regional, or site specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or as otherwise permitted under Federal regulations governing NPDES permit modifications;

(3) If translator or other water quality studies provide new information and a basis for determining that a permit condition(s) should be modified.

(4) If new or site-specific objectives for copper and/or cyanide are not anticipated to be effective by May 17, 2010 or April 27, 2010, respectively, and applicable regulations allow for an extension of the May 18, 2010 or April 28, 2010 compliance schedules for the WQBELs contained in this Order, the Order may be modified to shorten or extend the compliance schedule.

The Discharger may request Order modification based on (2), (3), and (4) above or on any other valid legal basis. The Discharger shall include in any such request an antidegradation and antibacksliding analysis, if applicable.

28. NPDES Permit

This Order shall serve as an NPDES permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective on October 20, 2005, provided the U.S. EPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, the Order shall not become effective until such objection is withdrawn.

29. Order Expiration and Reapplication

a. This Order expires on October 20, 2010.

b. In accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code, the Discharger must file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissue of this permit and waste discharge requirements. The application shall be accompanied by a summary of all available water quality data including conventional pollutant data from no less than the most recent three years, and of toxic pollutant data no less than from the most recent five years, in the discharge and receiving water. Additionally, the Discharger must include with the application the final results of any studies that may have bearing on the limits and requirements of the next permit. Such studies, for example, may include dilution studies, translator studies and alternate bacteria indicator studies.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 19, 2005.

_____
BRUCE H. WOLFE
Executive Officer

Attachments

A. Discharge Facility Location Map (Existing Plant)
B. Discharge Facility Treatment Process Flow Diagram (Existing Plant)
C. Discharge Facility Location Map (Future New Plant)
D. Discharge Facility Treatment Process Flow Diagram (Future New Plant)
E. Self-Monitoring Program, Part B
F. Pretreatment Requirements
G. Fact Sheet
H. Discharger's Feasibility Study
I. Executive Officer's Letter, November 15, 2004
J. The following documents are part of this Order but are not physically attached due to volume. They are available on the Internet at: http://www.waterboards.ca.gov/sanfranciscobay/Download.htm.
   - Self-Monitoring Program, Part A (August 1993)
   - Standard Provisions and Reporting Requirements, August 1993
   - Regional Water Board Resolution No. 74-10
   - Statistical Analysis of Pooled Data from Regionwide Ultraclean Mercury Sampling for Municipal Dischargers, June 2001
   - August 6, 2001 Regional Water Board staff letter, "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy"

Attachment A

Discharge Facility Location Map
(Existing Plant)

Attachment B

Discharge Facility Treatment Process Diagram (Existing Plant)

Attachment C

Discharge Facility Location Map
(Future New Plant)

Attachment D

Discharge Facility Treatment Process Diagram (Future New Plant)

Attachment E

Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CITY OF PETALUMA
WATER POLLUTION CONTROL PLANT
SONOMA COUNTY

ORDER NO. R2-2005-0058
NPDES PERMIT NO. CA0037810

Consists of:
Part A (not attached)
Adopted August 1993

and

Part B (Attached)
Adopted: October 19, 2005
Effective: October 20, 2005

Note: Part A, Standard Provisions and Reporting Requirements for NPDES Surface Water Discharger Permits (dated August 1993), and Resolution No. 74-10 referenced in this Self-Monitoring Program are not attached but are available for review or download on the Regional Water Board's website at www.waterboards.ca.gov/sanfranciscobay/

SELF-MONITORING PROGRAM, PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	Description
A-001	At any point in the treatment facility's headworks at which all waste tributary to the system is present, and preceding any phase of treatment.

B. EFFLUENT

Station	Description
E-001	At any point in the outfall from the treatment facility between the point of discharge and the point at which all flow tributary to that outfall is present. (May be the same as E-001-D).
E-001-D	At any point in the disinfection facilities for flow E-001, at which point adequate contact with the disinfectant is assured.

C. RECEIVING WATERS

Station	Description
C-1	At a point in the Petaluma River directly above the center of the diffuser.
C-2A	At points in the Petaluma River located 500 upstream and
C-2B	downstream, respectively, of the center of the diffuser.
C-R	At a point in the Petaluma River located 2,000 feet downstream from the diffuser.

D. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located along the corners and midpoints of the perimeter of the waste treatment facilities at equidistant intervals, not to exceed 200 feet. (A sketch showing the locations of these stations will accompany each annual report).

E. OVERFLOWS AND BYPASSES

Station	Description
O-1 through O-'n'	At points in the collection system including manholes, pump stations, or any other location where overflows and bypasses occur.

II. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATION

This Schedule of sampling, analyses, and observations shall be that given in Table 1 of this self-monitoring program.

Table 1. Schedule of Sampling, Measurement, and Analysis [1][2][12]

Sampling Station:	**A-1**	**E-001**			**E-001-D**			**C**	**P**	**O**
Type of Sample: **Parameter (units) [notes]**	**C-24**	**G**	**C-24**	**Co**	**G**	**C-24**	**Co**	**G**	**Ob**	**Ob**
	Year round	While discharging to Petaluma River							Year round	Year round
Flow Rate (mgd) [3]	D			D						
BOD_5 (mg/L & kg/d) [4]	3/W		3/W							
Total Susp. Solids (mg/L & kg/d) [4]	3/W		3/W							
Chlorine Residual (mg/L) [5]			Cont/H			Cont/H				
Oil & Grease (mg/L & kg/d) [6]		M								
Total Coliform (MPN/100 ml)					5/W					
Acute Toxicity (% Surv.) [7]						M				
Chronic Toxicity TUc [8]						3M				
Ammonia Nitrogen (mg/L & kg/d)					M			M		
Conductivity (mhos/cm)								M		
Unionized Ammonia (mg/L as N)								M		
Turbidity (NTU)					M			M		
pH (standard units)					D			M		
Temperature (^oC)					D			M		
Dissolved Oxygen (mg/L & % Sat)					D			M		
Sulfides, Total & Dissolved (mg/L) (if D.O. < 2.0 mg/L/l)					D			M		
Hardness (mg/L as $CaCO_3$)								M		
Total Dissolved Solids (mg/L)								M		
Chlorophyll-a (µg/L)								M		
Salinity (parts per thousand)								M		
All Applicable Standard Observations									M	E[13]
Copper (µg/L & kg/month)			M							
Mercury (µg/L & kg/month)		M [9]								
Nickel (µg/L & kg/month)			M							
Selenium (µg/L & kg/month)			M							
Cyanide (µg/L & kg/month)		M								
2,3,7,8-TCDD and Congeners (µg/L) [10]		A								
Bis(2-ethylhexyl)phthalate (µg/L)		A								

Sampling Station:	**A-1**	**E-001**			**E-001-D**			**C**	**P**	**O**
Type of Sample: **Parameter (units) [notes]**	**C-24**	**G**	**C-24**	**Co**	**G**	**C-24**	**Co**	**G**	**Ob**	**Ob**
All priority pollutants [11]	In accordance with Provision F.2 and F.3									

Legend for Table 1:

Types of Samples
Co = continuous
C-24 = 24-hour composite
G = grab
Ob = observations

Types of Stations
A = treatment plant influent
E = treatment plant effluent
O = Overflow and Bypass Points
P = Treatment Facility Perimeters
C = Receiving Water
L = Pond Levee Stations

Frequency of Sampling
D = once each day
W = once each week
M = once each month
A = once each year
Q = once each calendar quarter (with at least 2-month intervals)
E = each occurrence
3/W = 3 days per week
5/W = 5 days per week
2H = every 2 hours
3M = every 3 months

Footnotes for Table 1:

[1] Composite sampling: 24-hour composites may be made up of discrete grabs collected over the course of a day and volumetrically or mathematically flow-weighted. Samples for inorganic pollutants may be combined prior to analysis. Samples for organic pollutants should be analyzed separately. If only one grab sample will be collected, it should be collected during periods of maximum peak flows. Samples shall be taken on random days.

[2] Grab samples shall be collected coincident with composite samples collected for the analysis of regulated parameters.

[3] Flow monitoring: Effluent flow shall be measured continuously at Outfall E-001 and recorded and reported daily. For effluent flows, the following information shall also be reported, monthly:

Daily: Daily Flow (MG)
Monthly: Average Daily Flow (MGD)
Monthly: Maximum Daily Flow (MGD)
Monthly: Minimum Daily Flow (MGD)
Monthly: Total Flow Volume (MG)

In addition, the Discharger shall record the internal flow rates to treatment units and oxidation ponds, and submit these records if required by the Regional Water Board after blending events occur.

[4] The percent removal for BOD and TSS shall be reported for each calendar month in accordance with Effluent Limitation B.1.

[5] Chlorine residual: Monitor dechlorinated effluent continuously or, at a minimum, every hour. Report, on a daily basis, both maximum and minimum concentrations, for samples taken both prior to, and following dechlorination. If continuous monitoring is used, the Discharger may record discrete readings from the

continuous monitoring every hour on the hour, and report, on a daily basis, the maximum concentration observed following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

[6] Oil and grease: Each oil and grease sample event shall consist of a composite sample composed of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.

[7] Bioassays: Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the parameters specified in the U.S. EPA-approved method, such as pH, dissolved oxygen, ammonia nitrogen, and temperature. These results shall be reported. If the fish survival rate in the effluent is less than 70 percent or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new batches of fish and shall continue as soon as practicable until compliance is demonstrated.

[8] Critical Life Stage Toxicity Test shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Sections V and VI of the Self-Monitoring Program contained in this Order.

[9] The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. Use ultra-clean sampling (U.S. EPA 1669) to the maximum extent practicable and ultra-clean analytical methods (U.S. EPA 1631) for mercury monitoring. The Discharger may use alternative methods of analysis (such as U.S. EPA 245), if that alternative method has an ML of 2 ng/L or less.

[10] Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of U.S. EPA Method 1613; the analysis shall be capable of achieving one-half of the U.S EPA MLs. Also, the Discharger shall participate as appropriate the regional collaborative effort with other POTWs to validate the 4-liter sample methodology for lowering the detection limit for dioxins. At a minimum, the Discharger is required to monitor once per year for the life of this Order. Alternative methods of analysis must be approved by the Executive Officer.

[11] Sampling for all priority pollutants in the SIP is addressed in a letter dated August 6, 2001, from Regional Water Board Staff: “Requirements for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy” (not attached, but available for review or download on the Regional Water Board's website at www.waterboards.ca.gov/sanfranciscobay/).

[12] Testing conducted under the pretreatment and reuse programs may be used to satisfy the monitoring requirements of this Order. All analyses shall be performed using current U.S. EPA methods, as specified in 40 CFR Part 136. Metals units are expressed as total recoverable metals.

[13] See also III.H of this SMP for reporting and monitoring requirements for sanitary sewer overflows.

Tables 2 and 3 below list the pretreatment requirements.

Table 2. Pretreatment Monitoring Requirements

Constituents	Sample Locations And Frequency		
	Influent A-001	Effluent E-001	Biosolids
Hexavalent Chromium [1]	M	M	2/Y
Metals (As, Cd, Cr, Cu, Pb, Ni, Se, Ag, Zn)	M	M	2/Y
Mercury	M	M	2/Y

Constituents	Sample Locations And Frequency		
	Influent A-001	Effluent E-001	Biosolids
Cyanide	M	M	2/Y
VOC	2/Y	2/Y	2/Y
BNA	2/Y	2/Y	2/Y

Table 3. Pretreatment Monitoring: Analytical Methods and Sample Type

Constituent	Suggested Analytical Methods
Hexavalent chromium [1]	Standard Methods 3500
Metals (As, Cd, Cr, Cu, Pb, Ni, Se, Ag, Zn)	GFAA, ICP, ICP-MS
Mercury	EPA 245, 1631
Cyanide	Standard Methods 4500-CN^- C or I, 9012A (SW846)
VOC	EPA 624

Legend for Tables 2 and 3:

M = once each month
2/Y = twice each calendar year (at about 6 month intervals, once in the dry season, once in the wet season)
VOC = volatile organic compounds
BNA = base/neutrals and acids extractable organic compounds

Footnote for Tables 2 and 3:

[1] Total chromium may be substituted for hexavalent chromium at the Discharger's discretion.

III. MODIFICATIONS TO PART A OF SELF-MONITORING PROGRAM

A. If any discrepancies exist between Part A and Part B of the SMP, Part B prevails.

B. Section C.2.h of Part A shall be amended as follows:

h. When any type of bypass occurs, except for bypasses that are consistent with Prohibition 2, composite samples shall be collected on a daily basis for all constituents at all affected discharge points that have effluent limits for the duration of the bypass.

When bypassing occurs from any treatment process (primary, secondary, chlorination, dechlorination, etc.) in the treatment facility that is consistent with Prohibition 2, during high wet weather inflow, the self-monitoring program shall include the following sampling and analyses, in addition to the Table 1 schedule:

i. When bypassing occurs from any primary or secondary treatment unit(s), samples of the discharge shall be collected for the duration of the bypass event for BOD and TSS analyses in 24-hour composite or less increments, and continuous monitoring of flow, chlorine residual, and grabs for pH and coliform. Samples in accordance with proper sampling techniques for all other limited pollutant parameters shall also be collected and

retained for analysis if necessary. If BOD or TSS values exceed the weekly average effluent limits, analysis of the retained samples shall be conducted for all these pollutant constituents that have effluent limits for the duration of the bypass, until the BOD and TSS are in compliance with their weekly effluent limitations. Holding times for these retain samples must be complied with.

ii. When bypassing the chlorination process, grab samples shall be collected at least daily for total coliform analyses; and continuous monitoring of flow.

iii. When bypassing the dechlorination process, grab samples shall be collected hourly for chlorine residual; and continuous monitoring of flow.

C. Sections C.3. and C.5. are satisfied by participation in the Regional Monitoring Program.

D. Modify Section F.1 as follows:

Spill Reports
A report shall be made of any spill of oil or other hazardous material. The spill shall be reported by telephone as soon as possible and no later than 24 hours following occurrence or discharger's knowledge of occurrence. Spills shall be reported by telephone as follows:

During weekdays, during office hours of 8 am to 5 pm, to the Regional Water Board: (510) 622 - 5633, (510) 622-2460 (FAX).

During non-office hours, to the State Office of Emergency Services:
Current telephone number: (800) 852 - 7550.

A report shall be submitted to the Regional Water Board within five (5) working days following telephone notification, unless directed otherwise by Regional Water Board staff. A report submitted by facsimile transmission is acceptable for this reporting. The written report shall contain information relative to:

E. Modify Section F.2 (first paragraph) as follows:

Reports of Plant Bypass, Treatment Unit Bypass and Order Violation
The following requirements apply to all treatment plant bypasses and significant non-compliance occurrences, except for bypasses under the conditions contained in 40 CFR Part 122.41 (m)(4) as stated in Standard Provision A.13. In the event the Discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to:

[And add at the end of Section F.2 the following:]

The Discharger shall report in monthly and annual monitoring reports occurrence of blending events, their duration and certify that the blending was in compliance with effluent limits and O&M Plans.

F. Modify Section F.4 as follows:

Self-Monitoring Reports

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Regional Water Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document treatment performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices. The report shall be submitted to the Regional Water Board on the first day of the second month after the reporting period ends. The annual report is due on February 1st.

[And add at the end of Section F.4 the following:]

g. If the Discharger wishes to invalidate any measurement, the letter of transmittal will include: a formal request to invalidate the measurement; the original measurement in question; the reason for invalidating the measurement; all relevant documentation that supports the invalidation (e.g., laboratory sheet, log entry, test results, etc.); and discussion of the corrective actions taken or planned (with a time schedule for completion), to prevent recurrence of the sampling or measurement problem. The invalidation of a measurement requires th e approval of Water Board staff, and will be based solely on the documentation submitted at this time.

h. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The ERS format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the SMP, then the approved ERS requirements supersede.

G. Add at the end of Section F.5, Annual Reporting, the following:

d. A plan view drawing or map showing the Discharger's facility, flow routing and sampling and observation station locations.

H. Add as Section F.6 the following:

Reports of Wastewater Overflows
Overflows of sewage from the Discharger's collection system, other than overflows specifically addressed elsewhere in this Order and SMP, shall be reported to the Regional Water Board in accordance the Regional Water Board's letter dated November 15, 2004.

I. Amend Section E as Follows:

Recording Requirements – Records to be Maintained
Written reports, electronic records, strip charts, equipment calibration and maintenance records, and other records pertinent to demonstrating compliance with waste discharge requirements including SMP requirements, shall be maintained by the Discharger in a manner and at a location (e.g., wastewater treatment plant or discharger offices) such that the records are accessible to Regional Water Board staff. These records shall be retained by the Discharger for a minimum of 3 years. The minimum period of retention shall be extended during the course of any unresolved litigation regarding the subject discharges, or when requested by the Regional Water Board or by the Regional Administrator of U.S. EPA, Region IX.
Records to be maintained shall include the following:

1. Parameter Sampling and Analyses, and Observations
   For each sample, analysis, or observation conducted, records shall include the following:

   a. Identity of the parameter.
   b. Identity of the sampling or observation station, consistent with the station descriptions given in this SMP.
   c. Date and time of the sampling or observation.
   d. Method of sampling (grab, composite, other method).
   e. Date and time the analysis was started and completed, and name of personnel or contract laboratory performing the analysis.
   f. Reference or description of the procedure(s) used for sample preservation and handling, and analytical method(s) used.
   g. Calculations of results.
   h. Analytical method detection limits and related quantitation parameters.
   i. Results of the analyses or observations.

2. Flow Monitoring Data
   For all required flow monitoring (e.g., influent and effluent flows), records shall include the following:

   a. Total flow or volume for each day.
   b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids
   a. For each treatment unit process that involves solid removal from the wastewater stream, records shall include the following:

      (1). Total volume and/or mass quantification of solids removed from each unit (e.g., grit, skimmings, undigested sludge), for each calendar month
      (2). Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

   b. For final dewatered sludge from the treatment plant as a whole, records shall include the following:

      (1). Total volume and/or mass quantification of dewatered sludge, for each calendar month.
      (2). Solids content of the dewatered sludge.
      (3). Final disposition of dewatered sludge (point of disposal location and disposal method).

4. Disinfection Process
   For the disinfection process, records shall be maintained documenting process operation and performance, including the following:

   a. For bacteriological analyses:

      (1). Date and time of each sample collected.
      (2). Wastewater flow rate at the time of the sample collection.
      (3). Results of the sample analyses (coliform count).

(4). Required statistical parameters of cumulative coliform values (e.g., moving the median or geometric mean for a number of samples or the sampling period identified in waste discharge requirements).

b. For the chlorination process, at least daily average values for the following:

(1). Chlorine residual in contact basin (mg/L).
(2). Chlorine dosage (gal/day).
(3). Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses
A chronological log of all treatment process bypasses, other than wet weather bypasses addressed elsewhere in this Order and SMP, shall include the following:
a. Identification of the treatment process bypassed.
b. Date(s) and times of bypass beginning and end.
c. Total bypass duration.
d. Estimated total volume.
e. Description of, or reference to other report(s) describing, the bypass event, the cause, corrective actions taken, and any additional monitoring conducted.

6. Collection System Overflows
A chronological log of all collection system overflows shall include the following:
a. Location of the overflow.
b. Date(s) and times of overflow beginning and end.
c. Total overflow duration.
d. Estimated total volume.
e. Description of, or reference to other report(s) describing, the overflow event, the cause, corrective actions taken, and any additional monitoring conducted.

IV. ADDITIONS TO PART A OF SELF-MONITORING PROGRAM

Reporting Data in Electronic Format:

The Discharger has the option to submit all monitoring results in electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit the SMRs electronically, the following shall apply:

a. *Reporting Method:* The Discharger shall submit SMRs electronically via the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS).

b. *Modification of reporting requirements:* Reporting requirements F.4 in the attached *Self-Monitoring program, Part A*, dated August 1993, shall be modified as follows. In the future, the Regional Water Board intends to modify Part A to reflect these changes.

c. *Monthly Report Requirements:* For each calendar month, a self-monitoring report (SMR) shall be submitted to the Regional Water Board in accordance with the following:

i. The report shall be submitted to the Regional Water Board no later than the first day of the second month after the reporting period ends.

ii. *Letter of Transmittal*: Each report shall be submitted with a letter of transmittal. This letter shall include the following:

(1) Identification of all violations of effluent limits or other discharge requirements found during the monitoring period;

(2) Details of the violations: parameters, magnitude, test results, frequency, and dates;

(3) The cause of the violations;

(4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory;

(5) If the Discharger wishes to invalidate any measurement, the letter of transmittal will include: a formal request to invalidate the measurement; the original measurement in question; the reason for invalidating the measurement; all relevant documentation that supports the invalidation (e.g., laboratory sheet, log entry, test results, etc.); and discussion of the corrective actions taken or planned (with a time schedule for completion), to prevent recurrence of the sampling or measurement problem. The invalidation of a measurement requires the approval of Regional Water Board staff, and will be based solely on the documentation submitted at this time.

(6) Signature: The letter of transmittal shall be signed by the Discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(7) Compliance evaluation summary: Each report shall include a compliance evaluation summary. This summary shall include the number of samples in violation of applicable effluent limits.

(8) Results of analyses and observations.

(9) Tabulations of all required analyses and observations, including parameter, sample date, sample station, and test result.

(10) If any parameter is monitored more frequently than required by this permit and SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period.

(11) Calculations for all effluent limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this permit or SMP.

V. CHRONIC TOXICITY MONITORING REQUIREMENT

A. Test Species and Frequency: The Discharger shall collect 24-hour composite samples of treatment plant effluent at the compliance point station specified in Table 1 of this Self-Monitoring Program, for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

Test Species	Frequency
Americamysis bahia (mysid)	Quarterly (during discharge season)

B. Conditions for Accelerated Monitoring: The Discharger shall accelerate the frequency of monitoring to monthly (or as otherwise specified by the Executive Officer) when there is an exceedance of either of the following conditions:

1. three sample median value of 1 TUc, or
2. single sample maximum value of 2 TUc

C. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in the Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.

D. Dilution Series: The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25%. The "%" represents percent effluent as discharged.

VI. CHRONIC TOXICITY REPORTING REQUIREMENTS

A. Routine Reporting: Toxicity test results for the current reporting period shall include at a minimum, for each test

1. sample date(s)
2. test initiation date
3. test species
4. end point values for each dilution (e.g. number of young, growth rate, percent survival)
5. NOEC value(s) in percent effluent
6. IC_{15}, IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25} ... etc.) in percent effluent
7. TUc values (100/NOEC, $100/IC_{25}$, and $100/EC_{25}$)
8. Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)
9. NOEC and LOEC values for reference toxicant test(s)
10. IC_{50} or EC_{50} value(s) for reference toxicant test(s)
11. Available water quality measurements for each test (ex. pH, D.O., temperature, conductivity, hardness, salinity, ammonia)

B. Compliance Summary: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section A item numbers 1, 3, 5, 6(IC_{25} or EC_{25}), 7, and 8.

C. Reporting Raw Data in Electronic Format: The Discharger shall report all chronic toxicity data upon completion of chronic toxicity testing in the format specified in "Suggested Standardized Reporting Requirements for Monitoring Chronic Toxicity," February 1993, State Water Board. The data shall be submitted in either 3.5-inch floppy diskettes, compact disk (CD), or on optical disk (DVD).

VII. MONITORING METHODS AND MINIMUM DETECTION LEVELS

The Discharger may use the methods listed in the SIP, or alternative test procedures that have been approved by the U.S. EPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5 (revised as of May 14, 1999).

VIII. SELF-MONITORING PROGRAM CERTIFICATION

I, Bruce H. Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Water Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Water Board Order No. R2-2005-0058.

2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.

3. Is effective as of October 20, 2005.

_____
BRUCE H. WOLFE
EXECUTIVE OFFICER

Attachment: Chronic Toxicity

CHRONIC TOXICITY

DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as U.S. EPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached).
b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

C. The Discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

Table 1. Critical Life Stage Toxicity Tests for Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	*(Skeletonema costatum) (Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster Mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins	*(Strongylocentrotus purpuratus, S. franciscanus)*	Percent fertilization	1 hour	2
Sand dollar	*(Dendraster excentricus)*			
Shrimp	*(Mysidopsis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

Table 2. Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	*(Pimephales promelas)*	Survival; growth rate	7 days	4
Water flea	*(Ceriodaphnia dubia)*	Survival; number of young	7 days	4
Alga	*(Selenastrum capricornutum)*	Cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

Table 3. Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay[2]	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater[1] Marine/Estuarine	0 4	1 or 2 3 or 4	3 0
Total number of tests	4	5	3

[1] The freshwater species may be substituted with marine species if:

(a) The salinity of the effluent is above 1 part per thousand (ppt) greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

[2](a) Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95 percent of the time during a normal water year.

(b) Fresh refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

Attachment F

Pretreatment Requirements

Pretreatment Program Provisions

1. The Discharger shall implement all pretreatment requirements contained in 40 CFR 403, as amended. The Discharger shall be subject to enforcement actions, penalties, and fines as provided in the Clean Water Act (33 USC 1351 et seq.), as amended. The Discharger shall implement and enforce its Approved Pretreatment Program or modified Pretreatment Program as directed by the Regional Water Board's Executive Officer or the EPA. The EPA and/or the State may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act.

2. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Clean Water Act. The Discharger shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

3. The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 and amendments or modifications thereto including, but not limited to:

   i) Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);

   ii) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2);

   iii) Publish an annual list of industrial users in significant noncompliance as provided per 40 CFR 403.8(f)(2)(vii);

   iv) Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3); and

   v) Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively.

4. The Discharger shall submit annually a report to the EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix A entitled, "Requirements for Pretreatment Annual Reports," which is made a part of this Order. The annual report is due on the last day of February each year.

5. The Discharger shall submit semiannual pretreatment reports to the EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial users (SIUs). The report shall contain, but is not limited to, the information specified in Appendix B entitled, "Requirements for Semiannual Pretreatment Reports," which is made part of this Order. The semiannual reports are due July 31st (for the period January through June) and January 31st (for the period July through December) of each year. The Executive Officer may exempt a Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and EPA's comment and approval.

6. The Discharger may combine the annual pretreatment report with the semiannual pretreatment report (for the July through December reporting period). The combined report shall contain all of the information requested in Appendices A and B and will be due on January 31st of each year.

7. The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge as described in Appendix C entitled, "Requirements for Influent, Effluent and Sludge Monitoring," which is made part of this Order. The results of the sampling and analysis, along with a discussion of any trends, shall be submitted in the semiannual reports. A tabulation of the data shall be included in the annual pretreatment report. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX A

REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

The Pretreatment Annual Report is due each year on the last day of February. [If the annual report is combined with the semiannual report (for the July through December period) the submittal deadline is January 31st of each year.] The purpose of the Annual Report is 1) to describe the status of the Publicly Owned Treatment Works (POTW) pretreatment program and 2) to report on the effectiveness of the program, as determined by comparing the results of the preceding year's program implementation. The report shall contain at a minimum, but is not limited to, the following information:

1) **Cover Sheet**

The cover sheet must contain the name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of those POTWs that are part of the Pretreatment Program. Additionally, the cover sheet must include: the name, address and telephone number of a pretreatment contact person; the period covered in the report; a statement of truthfulness; and the dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the POTW (40 CFR 403.12(j)).

2) **Introduction**

The Introduction shall include any pertinent background information related to the Discharger, the POTW and/or the industrial user base of the area. Also, this section shall include an update on the status of any Pretreatment Compliance Inspection (PCI) tasks, Pretreatment Performance Evaluation tasks, Pretreatment Compliance Audit (PCA) tasks, Cleanup and Abatement Order (CAO) tasks, or other pretreatment-related enforcement actions required by the Regional Water Board or the EPA. A more specific discussion shall be included in the section entitled, "Program Changes."

3) **Definitions**

This section shall contain a list of key terms and their definitions that the Discharger uses to describe or characterize elements of its pretreatment program.

4) **Discussion of Upset, Interference and Pass Through**

This section shall include a discussion of Upset, Interference or Pass Through incidents, if any, at the POTW(s) that the Discharger knows of or suspects were caused by industrial discharges. Each incident shall be described, at a minimum, consisting of the following information:

a) a description of what occurred;

b) a description of what was done to identify the source;

c) the name and address of the IU responsible

d) the reason(s) why the incident occurred;

e) a description of the corrective actions taken; and

f) an examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing

requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

5) **Influent, Effluent and Sludge Monitoring Results**

This section shall provide a summary of the analytical results from the "Influent, Effluent and Sludge Monitoring" as specified in Appendix C. The results should be reported in a summary matrix that lists monthly influent and effluent metal results for the reporting year.

A graphical representation of the influent and effluent metal monitoring data for the past five years shall also be provided with a discussion of any trends.

6) **Inspection and Sampling Program**

This section shall contain at a minimum, but is not limited to, the following information:

a) Inspections: the number of inspections performed for each type of IU; the criteria for determining the frequency of inspections; the inspection format procedures;

b) Sampling Events: the number of sampling events performed for each type of IU; the criteria for determining the frequency of sampling; the chain of custody procedures.

7) **Enforcement Procedures**

This section shall provide information as to when the approved Enforcement Response Plan (ERP) had been formally adopted or last revised. In addition, the date the finalized ERP was submitted to the Regional Water Board shall also be given.

8) **Federal Categories**

This section shall contain a list of all of the federal categories that apply to the Discharger. The specific category shall be listed including the subpart and 40 CFR section that applies. The maximum and average limits for the each category shall be provided. This list shall indicate the number of Categorical Industrial Users (CIUs) per category and the CIUs that are being regulated pursuant to the category. The information and data used to determine the limits for those CIUs for which a combined waste stream formula is applied shall also be provided.

9) **Local Standards**

This section shall include a table presenting the local limits.

10) **Updated List of Regulated SIUs**

This section shall contain a complete and updated list of the Discharger's Significant Industrial Users (SIUs), including their names, addresses, and a brief description of the individual SIU's type of business. The list shall include all deletions and additions keyed to the list as submitted in the previous annual report. All deletions shall be briefly explained.

11) **Compliance Activities**

a) **Inspection and Sampling Summary:** This section shall contain a summary of all the inspections and sampling activities conducted by the Discharger over the past year to gather information and data regarding the SIUs. The summary shall include:

(1) the number of inspections and sampling events conducted for each SIU;

(2) the quarters in which these activities were conducted; and

(3) the compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

(a) in consistent compliance;

(b) in inconsistent compliance;

(c) in significant noncompliance;

(d) on a compliance schedule to achieve compliance, (include the date final compliance is required);

(e) not in compliance and not on a compliance schedule;

(f) compliance status unknown, and why not.

b) **Enforcement Summary:** This section shall contain a summary of the compliance and enforcement activities during the past year. The summary shall include the names of all the SIUs affected by the following actions:

(1) Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(2) Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(3) Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(4) Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(5) Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty.

(6) Order to restrict/suspend discharge to the POTW.

(7) Order to disconnect the discharge from entering the POTW.

12) **Baseline Monitoring Report Update**

This section shall provide a list of CIUs that have been added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR). The BMR must contain all of the information specified in 40 CFR 403.12(b). For each of the new CIUs, the summary shall indicate when the BMR was due; when the CIU was notified by the POTW of this requirement; when the CIU submitted the report; and/or when the report is due.

13) **Pretreatment Program Changes**

This section shall contain a description of any significant changes in the Pretreatment Program during the past year including, but not limited to: legal authority, local limits, monitoring/ inspection program and frequency, enforcement protocol, program's administrative structure, staffing level, resource requirements and funding mechanism. If the manager of the pretreatment program changes, a revised organizational chart shall be included. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

14) **Pretreatment Program Budget**

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the amounts spent on personnel, equipment, chemical analyses and any other appropriate categories. A brief discussion of the source(s) of funding shall be provided.

15) **Public Participation Summary**

This section shall include a copy of the public notice as required in 40 CFR 403.8(f)(2)(vii). If a notice was not published, the reason shall be stated.

16) **Sludge Storage and Disposal Practice**

This section shall have a description of how the treated sludge is stored and ultimately disposed. The sludge storage area, if one is used, shall be described in detail. Its location, a description of the containment features and the sludge handling procedures shall be included.

17) **PCS Data Entry Form**

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information: the POTW name, NPDES Permit number, period covered by the report, the number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule, the number of notices of violation and administrative orders issued against SIUs, the number of civil and criminal judicial actions against SIUs, the number of SIUs that have been published as a result of being in SNC, and the number of SIUs from which penalties have been collected.

18) **Other Subjects**

Other information related to the Pretreatment Program that does not fit into one of the above categories should be included in this section.

Signed copies of the reports shall be submitted to the Regional Administrator at U.S. EPA, the State Water Board and the Regional Water Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX B:

REQUIREMENTS FOR SEMIANNUAL PRETREATMENT REPORTS

The semiannual pretreatment reports are due on July 31st (for pretreatment program activities conducted from January through June) and January 31st (for pretreatment activities conducted from July through December) of each year, unless an exception has been granted by the Regional Water Board's Executive Officer. The semiannual reports shall contain, at a minimum, but is not limited to, the following information:

1) **Influent, Effluent and Sludge Monitoring**

The influent, effluent and sludge monitoring results shall be included in the report. The analytical laboratory report shall also be included, with the QA/QC data validation provided upon request. A description of the sampling procedures and a discussion of the results shall be given. (Please see Appendix C for specific detailed requirements.) The contributing source(s) of the parameters that exceed NPDES limits shall be investigated and discussed. In addition, a brief discussion of the contributing source(s) of all organic compounds identified shall be provided.

The Discharger has the option to submit all monitoring results via an electronic reporting format approved by the Executive Officer. The procedures for submitting the data will be similar to the electronic submittal of the NPDES self-monitoring reports as outlined in the December 17, 1999 Regional Water Board letter, Official Implementation of Electronic Reporting System (ERS). The Discharger shall contact the Regional Water Board's ERS Project Manager for specific details in submitting the monitoring data.

If the monitoring results are submitted electronically, the analytical laboratory reports (along with the QA/QC data validation) should be kept at the discharger's facility.

2) **Industrial User Compliance Status**

This section shall contain a list of all Significant Industrial Users (SIUs) that were not in consistent compliance with all pretreatment standards/limits or requirements for the reporting period. The compliance status for the previous reporting period shall also be included. Once the SIU has determined to be out of compliance, the SIU shall be included in the report until consistent compliance has been achieved. A brief description detailing the actions that the SIU undertook to come back into compliance shall be provided.

For each SIU on the list, the following information shall be provided:

a. Indicate if the SIU is subject to Federal categorical standards; if so, specify the category including the subpart that applies.

b. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard.

c. Indicate the compliance status of the SIU for the two quarters of the reporting period.

d. For violations/noncompliance occurring in the reporting period, provide (1) the date(s) of violation(s); (2) the parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters and (3) a brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

3) **POTW's Compliance with Pretreatment Program Requirements**

This section shall contain a discussion of the Discharger's compliance status with the Pretreatment Program Requirements as indicated in the latest Pretreatment Compliance Audit (PCA) Report, Pretreatment Compliance Inspection (PCI) Report or Pretreatment Performance Evaluation (PPE) Report. It shall contain a summary of the following information:

a. Date of latest PCA, PCI or PPE and report.

b. Date of the Discharger's response.

c. List of unresolved issues.

d. Plan and schedule for resolving the remaining issues.

The reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR 403.12(j)). Signed copies of the reports shall be submitted to the Regional Administrator at U.S. EPA, the State Water Resources Control Board and the Regional Water Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX C

REQUIREMENTS FOR INFLUENT, EFFLUENT AND SLUDGE MONITORING

The Discharger shall conduct sampling of its treatment plant's influent, effluent and sludge at the frequency as shown in Table 2 on Page 5 of the Self-Monitoring Program (SMP).

The monitoring and reporting requirements of the POTW's Pretreatment Program are in addition to those specified in Table 1 of the SMP. Any subsequent modifications of the requirements specified in Table 1 shall be adhered to and shall not affect the requirements described in this Appendix unless written notice from the Regional Water Board is received. When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored by both Table 1 and the Pretreatment Program. The Pretreatment Program monitoring reports shall be sent to the Pretreatment Program Coordinator.

1. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required test methods listed in Table 3 on page 5 of the SMP. Any test method substitutions must have received prior written Regional Water Board approval. Influent and effluent sampling locations shall be the same as those sites specified in the Self-Monitoring Program.

The influent and effluent sampled should be taken during the same 24-hour period. All samples must be representative of daily operations. A grab sample shall be used for volatile organic compounds, cyanide and phenol. In addition, any samples for oil and grease, polychlorinated biphenyls, dioxins/furans, and polynuclear aromatic hydrocarbons shall be grab samples. For all other pollutants, 24-hour composite samples must be obtained through flow-proportioned composite sampling. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated minimum level, then the Discharger shall conduct the analysis using the lowest commercially available and reasonably achievable detection levels.

The following standardized report format should be used for submittal of the influent and effluent monitoring report. A similar structured format may be used but will be subject to Regional Water Board approval. The monitoring reports shall be submitted with the Semiannual Reports.

A. Sampling Procedures – This section shall include a brief discussion of the sample locations, collection times, how the sample was collected (i.e., direct collection using vials or bottles, or other types of collection using devices such as automatic samplers, buckets, or beakers), types of containers used, storage procedures and holding times. Include description of prechlorination and chlorination/dechlorination practices during the sampling periods.

B. Method of Sampling Dechlorination – A brief description of the sample dechlorination method prior to analysis shall be provided.

C. Sample Compositing – The manner in which samples are composited shall be described. If the compositing procedure is different from the test method specifications, a reason for the variation shall be provided.

D. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.

E. A tabulation of the test results shall be provided.

F. Discussion of Results – The report shall include a complete discussion of the test results. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

2. **Sludge Monitoring**

Sludge should be sampled in the same 24-hour period during which the influent and effluent are sampled except as noted in (C) below. The same parameters required for influent and effluent analysis shall be included in the sludge analysis. The sludge analyzed shall be a composite sample of the sludge for final disposal consisting of:

A. Sludge lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

B. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

C. Dewatered sludge- daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) from each truckload, and shall be combined into a single 5-day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to sludge is recommended as a guidance for sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge Survey, September 1990, containing detailed analytical protocols specific to sludge, is recommended as a guidance for analytical methods.

In determining if the sludge is a hazardous waste, the Dischargers shall adhere to Article 2, "Criteria for Identifying the Characteristics of Hazardous Waste," and Article 3, "Characteristics of Hazardous Waste," of Title 22, California Code of Regulations, Sections 66261.10 to 66261.24 and all amendments thereto.

Sludge monitoring reports shall be submitted with the appropriate Semiannual Report. The following standardized report format should be used for submittal of the report. A similarly structured form may be used but will be subject to Regional Water Board approval.

A. Sampling procedures – Include sample locations, collection procedures, types of containers used, storage/refrigeration methods, compositing techniques and holding times. Enclose a map of sample locations if sludge lagoons or stockpiled sludge is sampled.

B. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.

C. Test Results – Tabulate the test results and include the percent solids.

D. Discussion of Results – The report shall include a complete discussion of test results. If the detected pollutant(s) is reasonably deemed to have an adverse effect on sludge disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/ dechlorination sampling and analysis practices shall be noted.

The Discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants that the permittee believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality.

Attachment G

Fact Sheet

Attachment H

Discharger's Feasibility Analysis

Attachment I

Executive Officer's Letter
New Requirements for Reporting of Sanitary Sewer Overflows
Dated November 15, 2004